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EDITOR:

A. H. WRIGHT, B.A., M.D. TORONTO, M.R.C.S. ENGLAND.

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A. H. WRIGHT, B.A., M.D. Tor., M.R.C.S. England.

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TORONTO, JANUARY 1, 1891.

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THE PRESENT POSITION OF ANTISEPTIC SURGERY.\*

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Surgeon to the University and German Hospitals.

Read in the post-graduate course of the University of Toronto,  
December 20th, 1890.

For several years it has been my custom in my lectures at the University of Pennsylvania to pass rapidly over the evidence in support of the antiseptic theory of wound treatment with the remark that the time for argument had passed, and it was merely necessary now to present such facts as might serve to make clear such principles involved and to emphasize the enormous benefit that has resulted from the application of those principles to practical surgery. It seemed to me that the theory of antisepsis rested upon a mass of correlated facts, experimental, clinical, and bacteriological, sufficient to establish it on a firm foundation, and that the only debatable ground remaining was that relating to the selection of methods and the improvement of details. I considered that the problem had been so scientifically stated, and its solution had been so thoroughly accomplished that, as regarded the general principles, no opposing views worthy of mention remained for discussion or refutation.

I also thought that the whole history of the development and establishment of this great theory, while including the admirable labors of hundreds of medical men in all parts of the world, and constituting one of the brightest chapters in the record of human progress, yet centered around the figure of the English-speaking surgeon whose name was identified with it from its incipency, in whose mind the grand conception first took practical and definite shape, and whose patient, unassuming, conscientious work in elevating his original thought into a working hypothesis and in transforming the latter into a theory of world-wide acceptance, seemed to me to present perhaps the best, and certainly the most important, example of the application of purely scientific methods to practical surgery to be found in the history of the profession.

These, I say, have been my views, stated more and more dogmatically to successive classes as time went on, and with less and less thought of possible error or of contradiction from respectable surgical authorities. Of course there are always persons in every profession and in every community whose brain-cells react to new thoughts and ideas as their grosser tissues to foreign bodies. A condition of irritation is set up, followed by the expulsion of the intruder or by its encapsulation and virtual disappearance. Vaccination for variola has to-day its dozens of bitter opponents; for other infective diseases, its hundreds of skeptics; the theory of evolution, which has revolutionized the natural science of this century, is still violently attacked;

\* A reply to Mr. Taft's recent criticism of Sir Joseph Lister's Berlin Address.

and although the laws of gravitation and of planetary motion are now quite generally admitted, we have in Virginia a colored clergyman who still proclaims his belief in the sun's motion. As regards the antiseptic theory, we can usually afford to turn a deaf ear to this class of opponents, many of whom have about as much claim to speak with authority on surgical or scientific topics as the Reverend Mr. Jasper on astronomical subjects.

When, however, a noted surgeon, a successful operator and a vigorous controversialist, undertakes to traverse the whole line of thought and argument upon which my confident acceptance of the theory was founded, denies its basal facts, ridicules its logic, jeers at its methods, challenges its records and abusively attacks its author and his supporters; and when I find such views, so expressed, published and republished in the most reputable medical journals of the day, with little or no editorial censure, it seems to me proper that those of us who are teachers should once more review the evidence, consider the situation, and, according to our conclusions, publicly reaffirm or renounce our faith in the theory and practice of antiseptis.

On the 4th of last August, I had the pleasure of hearing Sir Joseph Lister deliver before the International Medical Congress at Berlin an address upon "The Present Position of Antiseptic Surgery." He evidently did not think it necessary in the presence of that vast audience, containing many of the most distinguished men in Europe and America, to defend or even to restate his position as to antiseptis, but devoted his time to noting the new light which had been thrown on the behavior of wounds by the results, on the one hand, of Koch's discovery of the method of cultivating microbes upon solid media, and, on the other, of Metchnikoff's researches into the phagocytic action of the migratory or amœboid cells of the human body. According to Lister, Koch's work has rendered it possible to study with greater precision than ever before the habits and behavior of micro-organisms, and he instanced the discovery of the cholera microbe as a notable example of the results of this method. Detailing some of Metchnikoff's experiments to prove the antibacterial action of normal leucocytes, he called

attention to the explanation it offered of much that was hitherto mysterious in the relation of micro-organisms to wounds; the healing, for instance, of wounds like that made in the operation for hare-lip, the posterior edge of which is perpetually bathed in saliva containing septic bacteria. The destruction of these microbes by the leucocytes which people the lymph at the edge of the wound satisfactorily explains the rapid healing which we uniformly obtain after this operation. So, too, he thought, that in cases where fine silk ligatures are used unpurified and left in closed wounds, the phagocytic action of the normal tissues may destroy the microbes that have gained access to the interstices of the thread, and prevent their fermentative or putrefactive action on the discharges.

He then considered the question of drainage and of irrigation, pointing out the possibility of dispensing with both in many wounds, and suggesting that in the new light thrown upon the ability of normal tissues to protect themselves, contamination from atmospheric organisms may perhaps also be disregarded, provided no septic matter be otherwise introduced into wounds. In support of this, he noted the fact that it had been found that the free entrance of air containing microbes into the pleural cavity in cases of empyema had produced no harmful results in the days when the spray was irrationally depended upon to sterilize such air, and instanced the transformation of the purulent contents of the pleural cavity into a rapidly diminishing serous effusion, the closure of the external opening, the resumption of the normal functions of the pleura, the expansion of the contracted lung through atmospheric pressure.\*

This statement Mr. Tait criticises (if it can be called criticism) most violently, calling on the "shades of Newton and Torricelli" in mock dismay at the disregard of physical laws which he thinks it manifests. He misquotes Lister, who spoke of the closure of "the external opening," This Tait transforms into "closure of the affected cavity," and then says that "given a membrane to which the atmosphere has free access on both sides, on both of these sides the pressure of the atmosphere will be exactly the same"—a self-evident proposition, but one which has nothing to do with the condition of the lung and pleura after the chest wall has become impervious. He says, also, that when the closure of the pleural cavity is completed "the natural dimensions of the affected lung are always remarkably diminished." In contradiction of his whole position in this matter, I would refer to the following authorities: West, on Pneumothorax (*The Lancet*, 1887, vol. 2, p. 353); Williams, on the use of a Valvular Tube in Empyema (*British Medical Journal*, May 18, 1889); Reynolds, on Pneumothorax Consecutive to Empyema (*Manchester Medical Chronicle*, October, 1889); Douglass Powell, on Variations in Intra-thoracic Pressure (*Transactions of International Medical Congress*, 1881, vol. 2); Donaldson, on Diseases of the Pleura (*American System of Medicine*, vol. 3, pp. 522, 559). The latter author says: "The dilatation of the lung is produced by the disappearance of the intra-pleural pressure and the pressure in the opposite direction from the bron-

etc., as a beautiful example of the reparative processes of nature when uninterfered with by mischievous agents from extrinsic sources. The contrasting course of those cases, in which, in pre-antiseptic days, the discharges escaping from the wound became infected and underwent putrefactive fermentation, is familiar to most of you.

He then emphasized the need for antiseptic rather than aseptic dressings in cases where large discharge is unavoidable, and concluded with a reference to the double-cyanide dressing which he has been using for eighteen months.

This address seemed to me as I listened to it to be another striking example of Lister's remarkable willingness to receive and profit by all new discoveries and all genuine advances bearing upon the antiseptic theory. So far as I know, he has never remained silent in the face of satisfactory demonstration that any portion of his method was unnecessary or illogical. As he gave up the spray when it became evident that it was not accomplishing its work, as he has from time to time discarded various antiseptics in the search for the ideal one combining permanency and certainty of action with absence of irritating qualities, so he now is willing to minimize the dangers of atmospheric contamination and to discard washing, irrigation, and even drainage in appropriate cases, although for years he has been conscientiously emphasizing their importance. Surely this is the true scientific spirit, as rare as it is admirable, and an additional evidence of the single-mindedness and absolute fairness of this great investigator.

On the 27th of last September there appeared in *The British Medical Journal* an article by Mr. Lawson Tait, consisting of an address delivered a short time previously, and entitled "The Present Aspect of Antiseptic Surgery; A Criticism of Sir Joseph Lister's Address at the International Congress."

Of the tone, taste and temper of this essay, I shall have but little to say. It would be difficult to characterize it properly and preserve the dignity and decorum which should belong to scientific discussion, but which are so conspicuously absent in Mr. Tait's paper. So far, how-

ever, as concerns our present purpose, it may be considered from two standpoints: 1st. As it denies the truth of the principles underlying the practice of antiseptics, and advances an alternative theory applicable to the treatment of wounds. 2nd. As it attacks the prevailing antiseptic methods.

1. THE PRINCIPLES INVOLVED. Mr. Tait draws an elaborate comparison between the phlogiston theory of Stahl and the antiseptic theory, asserting, to use his own words, that we have a perfect parallel to the former in "the septic theory of inflammation and fever which is the favorite hobby-horse of our own day." He adds, "everything at present has a septic origin and a septic inception, yet I venture to say that before the present generation has run out the word antiseptic will be all that is left to represent the strange structure, just as anti-phlogistic was the only word left to represent the phlogistic theory in the middle of the present century." He continues by asserting a want of logic in the use of the term "theory" at all, saying that "instead of the septic or antiseptic fact, Lister and his still more illogical disciples talk of the septic or antiseptic theory, whereas there is no theory about it at all, but an absolute and ludicrous logical error." He then opens his argument by denying that the cholera bacillus has been definitely isolated or that it can be cultivated with certainty and precision; and says that even if it has and if it is potent for production or reproduction, the fact that if a thousand people drink the same germ-infected water only a hundred or so will be affected, and that the majority of these will recover, shows that the facts about germs in the human body do not coincide with the facts of the germs in the gelatine flasks, and that, therefore, they cannot stand as the basis of a working hypothesis, far less of a theory.

It is difficult to follow the vagaries of this extraordinary paper: but if all this means anything whatever, it means, taking the cholera bacillus as a type, all deductions based upon bacteriological investigation are denied because the growth and reproduction of micro-organisms in the body are so influenced and altered by physiological and vital processes as to run a course somewhat different from that which they take in flasks or test-tubes. For the same gen-

chial surface." The whole question is, of course, a distinct digression, but is used by Tait in justification of his assertion that Lister "possesses crude notions of logical definition"!!



eral reason and because it will not immediately explain the difference among the clinical courses of various infective diseases, Mr. Tait rejects the phagocyte theory, apparently assuming that if it is true there should be a uniform destruction of bacilli of all varieties, one might as well deny the essential element of conception, the fusion of the ovum and sperm cell—possibly an instance of phagocytosis:—because of the variations in the resulting animal. This position is, however, in harmony with his denial of the value of vivisection for similar reasons, and illustrates the working of a mind which he is pleased to consider “logical.” The assumption that this is what he is clumsily attempting to say is also justified by several other paragraphs, which will serve at once to display his real ignorance of the teachings of Lister and to illustrate the character of his address. He says, “If the entrance of germs into a wound was the immediate and real cause of suppuration and of consequent poisoning, the device of the spray was the most completely logical appliance that could have occurred to the mind of man.” “Even if the phagocytes are the means by which the tissues resist the omnipotent and ever present germs, it is the phagocytes and their conditions which must constitute the really important elements of the question: keep your phagocytes up to the mark and you need never bother about germs.” “With the Listerian, one germ is as good as a thousand.” “If it would gratify the phagocytes in any way, I would stuff the abdomen like a pudding with the germs or bacilli of decomposition, provided there was nothing present for them to feed upon.” He finally, after more vituperation and self-glorification, sums up his position in the two following paragraphs: Lister’s view was, “Keep out the germs and you may leave blood-clot (and other matters) to take care of themselves.” My view was and is, “Get out all decomposable matter and you can let the germs in freely.” “There are two factors in the trouble, and it can be shown conclusively that one, the germs, are wholly indispensable without pabulum on which to feed; whilst the other, the pabulum, is sure to breed trouble because it is practically and mechanically impossible to keep the germs out: they exist already in the blood and elsewhere, and

are ever present, according to the best authorities.”

This amount of quotation I was reluctantly compelled to make to elucidate his views, but we may now ask, “What are the *facts* in the case?”

The evidence necessary to prove the definite etiological relation of a particular micro-organism to a specific disease in man is as follows: The organism must be unmistakably recognizable at different periods of its growth: it must be isolable: it must be capable of cultivation alone and free from association with other organisms; it must be invariably associated with the disease in question: it must be capable by inoculation of producing that disease; it must retain this power through an indefinite series of cultures. If these conditions were fulfilled in but a single instance, it would be sufficient to demonstrate the folly of the general attack on all germ theories contained in Tait’s paper; but at least five well-known examples may be mentioned of indisputable relation of cause and effect between specific pathogenic microbes and infective disease. Since 1879, when Koch first demonstrated the connection between definite micro-organisms and various wound diseases, the evidence has steadily accumulated. Ogston in 1881, Rosenbach and Cheyne in 1884, Passet in 1885, Zuckermann in 1887, have shown that the various staphylococci have as distinct a causative relation to acute suppuration as has the yeast plant to the alcoholic fermentation. They can be found in and cultivated from the pus in every recent abscess; they invariably produce suppuration when pure cultures are injected, even to the twentieth generation. Their effect may or may not be aided by the ptomaines which they produce, but as the amount of ptomaines is directly proportionate to the number of microbes present, and as the ptomaines are never produced at all in the absence of the microbes, the question as to the relative importance of the two has, as Senn long ago said, but little interest for the practical surgeon, and can have none at all for the “purely unscientific person” that Mr. Tait with truthfulness represents himself to be.

Another example is to be found in malignant pustule, the specific cause of which, the bacillus anthracis, is readily cultivated in different media



and produces the disease when inoculated in the smallest possible quantity.

Fehleisen in 1883 showed that erysipelas depended upon a streptococcus, inoculation of which when quite pure produced the disease in six out of seven cases, the exception occurring in a person who had recently had an attack of erysipelas and was scarcely more than convalescent.

Acute osteo-myelitis has until recently been thought to be due to the ordinary microbes of suppuration, but the researches of Becker and Krause (1883) and others have made it probable that a specific micrococcus is the essential element of the disease.

Tubercle furnishes the last of our examples of microbe disease, and we have just learned that to Koch, who in 1882 discovered the tubercle bacillus, we possibly owe the equally brilliant and infinitely more important discovery of its antidote.

In the face of this collection of facts, of such transcendent importance to surgery and to the world at large, we can afford to pass by without further mention the bacilli of tetanus, typhoid fever, and glanders, the micrococci of lobar pneumonia and of gonorrhœa, and the microbes of cholera and of gangrene, although it is quite clear to all persons capable of weighing scientific evidence that it is a question of time only when our knowledge of these microbes shall be as definite as of those I have enumerated.

In the face of this evidence, we may assume that Tait's general and contemptuous rejection of *all* surgical theories dependent upon our knowledge of germs is not warranted by the facts in so far as suppuration, erysipelas, tubercle, anthrax, and osteo-myelitis are concerned, and therefore that there is no *a priori* ground for rejecting *every* theory involving a belief in the potency for mischief of micro-organisms.

It is more directly to the point, however, to inquire into the evidence in favor of the germ theory of septic wound disease, and here we must briefly consider some very elementary questions. Mr. Tait takes great pains in one portion of his paper to emphasize the fact that "such bacilli as cause decomposition and such as have specific properties split out from dead organic matter some horrid things," *i.e.* in other words, that they act as ferments, causing that form of fermentation which we know as putre-

faction. Mr. Tait is as usual inaccurate in his statement— as the *micrococcus erysipelatosus*, for example, which is undoubtedly a microbe with specific properties, does not cause any putrid change: but he would have been correct in asserting that all organisms produce changes in the materials in which they grow, which means that they all cause *some* kind of fermentation.

The antiseptic treatment of wounds might, under Mr. Tait's ruling, be described as a treatment directed against the causes of putrefaction in wounds: but a more accurate definition expands it, as Mr. Cheyne has suggested, so as to include treatment directed against the cause, not merely of the putrefactive fermentation, but of all fermentations. Accepting this very liberal definition, our scientific evidence leads us to the adoption of the antiseptic theory by the following steps, each of which is as demonstrable as the single rule of three or the *pons asinorum*:

Fermentation (whether putrefactive or otherwise) in organic substances, such as blood clot or serum or pus, or the discharges from wounds, depends upon the access to these substances of micro-organisms. The proofs of this fact are twofold. Experimentally, it is shown by the certainty with which easily decomposable substances like blood, urine, or beef tea, may be kept indefinitely sweet by simply protecting them from germ contamination. Clinically, it forms the basis of all subcutaneous surgery: explains the difference between simple and compound fractures: and, taken in conjunction with another fact, *viz.*, that the fluids and tissues of the healthy living body are practically sterile, it also explains the difference between the behavior of a case of arterial occlusion affecting a portion of the surface of the body and producing gangrene or sloughing, and a case of similar occlusion affecting an internal organ and producing atrophy and retrograde metamorphosis.

The last fact I mentioned—the sterility of the blood and tissues—is denied by Mr. Tait, who says "the germs exist already in the blood and elsewhere, and are ever present, according to the best authorities." The elaborate and carefully conducted experiments of Hauser,\* Watson Cheyne† and others completely contra-

\* Archiv. f. Experiment. Pathologie und Pharmacol. bd. 20 p. 162.  
† Brit. Med. Jour., March 2, 1885.

dict this statement, which is really the foundation of Mr. Tait's argument. As we have seen, the evidence that germs cause fermentation is undeniable, and it is equally true that germs can be excluded from wounds by antiseptic precautions, or can with less certainty be destroyed after they have gained access. This statement rests, on the one hand, upon microscopical evidence (microbes being demonstrably absent from the discharges of properly sterilized wounds and as constantly present in suppurating or sloughing wounds); and, on the other hand, upon a mass of clinical testimony familiar to every member of the profession. A portion of this testimony, in spite of its triteness, it is necessary to recapitulate in order to complete the argument: The germ theory of fermentation is undisputed: fermentation in wounds can therefore be prevented by the exclusion of germs; it has been shown microscopically that these can be kept out (asepsis) or can be destroyed (antisepsis); practically, therefore, it only remains to show the effect upon patients, with operative or other wounds, of excluding or destroying germs to show the value or lack of value of antisepsis and the antiseptic theory. By looking back a few years to the very beginning of the employment of antiseptics, we can obtain the most striking and convincing evidence of the effect of treatment directed almost exclusively, though then very imperfectly, against the introduction of bacteria.

The record of the work of Prof. Lister may well begin our series of examples. In Glasgow, in 1864, 1865, and 1866, Mr. Lister's mortality in a series of operations of all sorts was 45.7, largely from septic diseases. About this time he began to employ, gradually, some antiseptic methods in his treatment of wounds and during operations. In 1867, 1868, and 1869, his mortality fell to 15. . . At Edinburgh, having greatly improved the details of his system, we find that from 1871 to 1887 he treated 553 grave surgical cases, with a mortality from septic disease of only .36, a diminution in the death rate which, when we remember that these different results were obtained by the same man operating upon the same class of patients, and for the same injuries or diseases, is so striking as to be in itself conclusive. Still later, an opportunity was afforded to compare Mr. Lister's results with those

of a colleague, Mr. Spence, working in the same hospital, but declining to employ antiseptic methods. The total results of their major operations showed that Mr. Spence lost just about three patients where Mr. Lister lost one, while the deaths from infective diseases were 2.4% among Spence's cases, and one-third of 1%, or eight times less, among those of Mr. Lister. When we turn to the work of other surgeons, we find evidence, if possible, still more conclusive, of the value of these methods. Nussbaum has shown that during forty years in his clinic, under his own direction as well as that of his predecessors, among whom was Stromeyer, the deaths from wound diseases were so common that patients with even the slightest injuries often succumbed to them; that erysipelas and abscesses were matters of daily occurrence; that 80% of all wounds and sores were attacked with hospital gangrene, and that nearly all patients with compound fractures died; and he states that immediately upon the introduction of the antiseptic system, all these diseases vanished, and healing by first intention, previously almost unheard of in his service, became the rule instead of the exception. Prof. Volkmann, in an address before the International Medical Congress, which met in London in 1881, testified strongly and clearly to the results obtained in his own practice, selecting two subjects especially, compound fractures and major amputations, as evidence of the value in his hands of the antiseptic method. He said that the mortality after compound fracture had, during the long labors of the surgeons who preceded him, as well as during his own, reached the sad height of 40%. Immediately before he adopted the antiseptic method of treating wounds, his last twelve patients with compound fracture had all died of pyæmia or septicæmia. From that time up to the period at which he delivered this address, he had treated 135 compound fractures without losing a single patient from either of these wound diseases; 133 were cured; two died, one of fatty embolism of the lungs during the first few hours, and one, a drunkard, of delirium tremens. As to the amputations, he asserted that he now cured each year, with the antiseptic method, more cases of amputation of the thigh, for example, than during all the rest of his labors before the introduction of the method. In an article on the treatment

of compound fractures. Prof. Dennis, of New York, has compiled further evidence in this same direction. In the Pennsylvania Hospital, between the years 1839 and 1851, there were treated 116 cases of compound fracture of the leg and thigh; excluding those cases requiring amputation, there were 51 deaths, a mortality of 45%. In the New York Hospital, during the same period, there were treated 126 cases of compound fracture of the leg and thigh: excluding amputations, there were 61 deaths, a mortality of 48%. From 1860 to 1876 there were reported from the surgical clinics of Vienna and Zurich, by Billroth, 180 cases of compound fractures: excluding amputations, there was a mortality of 41½% from septic disease. In the Obuchow Hospital Reports of St. Petersburg, 106 cases of compound fracture gave a mortality of 68%. In Guy's Hospital, from 1841 to 1861, there were reported 208 cases of compound fracture, with 50 deaths, a mortality of 26%. After the introduction of antiseptics, this death rate immediately fell to 4% from an average of 40 to 50%; and in this article of Dr. Dennis, in which he reports 516 cases of compound fractures, there was no record of death from septic trouble in any fracture of the extremities, which was the class of injuries included in the above statements. I might easily multiply such evidence as this a thousand-fold, but it seems unnecessary to repeat what has long been so familiar. And yet it is upon this evidence, which I have endeavored to condense, that the antiseptic theory rests. The facts and figures could easily be replaced by newer statistical matter, but I have selected these for the very reason that they show better than more recent experiences the wonderful changes wrought solely by the employment of antiseptics under circumstances otherwise unaltered—drainage having been previously used, the amount of "pabulum" in the wounds remaining the same, the operators and surroundings being just as in the days of gangrene and pyæmia. Mr. Tait endeavors to break the chain of reasoning by saying, (1) That the germs are everywhere and cannot be got rid of—a misstatement; and (2) that the presence or absence of sepsis depends on the presence or absence of "pabulum," i.e., dead organic matter, blood clot, serum, etc. It has been one of the axioms of antiseptic surgery from the beginning

that scrupulous attention should be paid to hæmostasis and to drainage. No one has taught this more earnestly than Lister and his followers, and Tait's adoption of it as *his* "view" is evidence of his ignorance of the work of others. To be sure he says that Kæberle first taught him drainage in 1875, and gives due and deserved credit to Chassaignac for his work in this direction, but English and American surgeons have employed drainage fully and carefully since the early part of this century, and Syme (afterwards Lister's father-in-law), in 1826, made the importance of providing a free escape for the discharges from wounds the subject of one of his most important papers. It is easy to say that if you have nothing to decompose there will be no decomposition, for that is what it amounts to. "Get out all decomposable matter," he says, "and you can let the germs in freely," but in practical surgery this is by no means always possible. It is really to be regretted that Mr. Tait has not had an opportunity to see some general surgery, and particularly to follow Lister's practice at King's College Hospital. I am curious to know how he would interpret a case which I saw there in 1888, and described as follows in a letter to *The Medical News*. It was a case of operation upon a fractured patella, with elongation of the quadriceps by Cameron's method, in which there had been muscular spasm, followed by extensive oozing from the cut surfaces: "A large clot formed, producing considerable tension, necessitating the removal of the stitches, and causing at two points a slight separation of the edges of the wound. I watched this for ten days, and instead of the flush, the suppuration, the elevation of temperature and the alarming symptoms which would usually follow such hemorrhage into and about a great joint, the patient and the limb both remained perfectly passive, with absolutely no sign of either local or constitutional irritation, while the clot itself gradually contracted and the knee resumed its normal outline. During all this time there was literally not one drop of pus, and not a trace of offensive odor. A severer test of Prof. Lister's antiseptic methods could hardly be devised or imagined."

There was no lack of "pabulum" here, but it gave rise to no evil effects, while, on the other hand, I am sure that there is not a practical surgeon in the world to-day, no matter how



"humble" or "unscientific," who doesn't know what the result would have been if the germs had been "let in freely." The numerous successful cases of Schede's method of utilizing blood-clot in the filling of bone cavities are similar arguments and of a most convincing kind.

Ignorance of general surgery and highly specialized experience offer the only explanation of such astounding statements.

Mr. Tait deals habitually with a membrane, the peritoneum, which has a remarkable power of self-protection. Microbes gaining access to the abdominal cavity are exposed to destruction either by the serum which it copiously exudes, or by a possible phagocytic action of its enormous numbers of endothelial cells, or by both. I have thought, too, that possibly the extraordinary cases of cure of peritoneal tuberculosis after simple laparotomy and flushing of the abdominal cavity were due to the stimulation of the membrane (through removal of pressure or through contact with the irrigating fluid) to greater exudation and of its cells to greater anti-bacteric activity. It is merely a supposition, but seems as reasonable as any of the explanations I have heard offered. At any rate these properties are well known, and if one could anywhere in the body depend on the restriction of the amount of "pabulum" rather than on the exclusion of the germs it would be here.

Mr. Tait, after contemptuously disregarding *all* surgical theories, including that of antiseptis, ventures upon one of his own. He thinks the phenomena of sepsis due to the "dose" of dead tissue or "pabulum," and of the poison resulting from its decomposition, and with a momentary forgetfulness of his "humility" he actually advances this as an original "working hypothesis." It would sound very much to the general surgeon as if Mr. Tait had never heard of sapræmia, which is described by a "Listerian" as follows: "Sapræmia or putrid intoxication represents that form of septicæmia in which a preformed toxic agent is injected into the circulation and in which the maximum symptoms are reached as soon as the poison has become mixed with the blood. This form of sepsis may be caused by any microbe, otherwise harmless, or with only slight pathogenic properties, as the bacillus of putrefaction, which causes putrefaction in any dead tissue, as, for instance, a blood

clot or contused tissue; and the symptoms arise as the ptomaines are absorbed, and are appropriate to the amount absorbed, and subside with the cessation of absorption and their elimination through some of the excretory organs."

Mr. Tait's remarks against dosage are further evidences of his ignorance of Listerian work and teachings. He says: "With the Listerians, one germ is as good as a thousand." I suppose it is safe to class Mr. Watson Cheyne, whom I have just quoted, as a "Listerian." Indeed, he has for years been Lister's assistant and authorized mouth-piece. In Mr. Cheyne's lectures on "Suppuration and Septic Diseases,"\* he not only asserted but proved experimentally that the number of bacteria introduced modified greatly the intensity of the symptoms and even the character of the disease. He experimented with cultivations of Hauser's *proteus vulgaris*, finding that one-tenth of a cubic centimetre caused immediate death: one-fortieth of a cubic centimetre caused death in six or eight weeks: smaller doses produced no effect. Similar observations have been made by Passet,† Pawlowsky,‡ and others, and are as well known as any in connection with antiseptic surgery.

It is evident that what is original in Mr. Tait's "hypothesis" is not true, and that what *is* true is not original.

## 2. THE PREVAILING ANTISEPTIC METHODS.

—It seems apparent at any rate that, to put it mildly, Mr. Tait is not a safe or reliable authority on the general subject of surgical antiseptis, but towards the end of this paper he ventures on a specific fling at Lister's last surgical dressing. After asserting that "Listerism" is "as dead as Julius Cæsar," he adds: "The mischief probably is not at an end, for we hear that the last phase of this astonishing craze is that wounds are to be dressed with still a new contrivance, one as deadly and dangerous as any that can well be imagined—a double cyanide." I am especially interested in replying to this statement for the reason that, owing to the kindness of Sir Joseph Lister (who during the summer of 1889 gave me confidentially the various formulæ which he was using, and supplied me with the materials from his own manufacturers of gauze

*Brit. Med. Jour.*, March, 1888.

† *Monatsh. f. Prakt. Dermatol.*, B. 7, No. 1, 1887.

‡ *Centralblatt f. Chirurgie*, No. 48, 1887.

and chemicals), I was the first surgeon in this country to employ the dressing in question, and because I now have a series of cases in which it has been used, large enough to justify publication. The history of the steps which led up to the employment of this material must be briefly mentioned, both to explain its selection and in reply to the charge of "perpetual shifting."

The aim of the surgeon after every operative wound is, of course, to secure union by first intention. Any persistent irritation is a source of trouble in wounds, and the different antiseptics which have been employed have not been free from the charge of contributing to the occurrence of excessive inflammation by their own irritant action. The typical antiseptic must, therefore, be as nearly as possible devoid of irritating properties. It must be germicidal—that is, it must possess the power of destroying the micro-organisms. It must have an inhibitory power—that is, it must prevent the development of such organisms. It must be stable—that is, it must not disappear from the dressings after they are made, or after they are applied to the wound, either by solution in the discharges or by volatilization.

In the old Listerian method, carbolic acid was the antiseptic employed; but this had the disadvantage of volatility as well as a great slowness of action as a germicide. Corrosive sublimate which succeeded it, was stable and acted rapidly, but was exceedingly irritating, and, in addition, was precipitated by the albumen contained in the serum of the blood. This precipitate, it was discovered by Sir Joseph Lister, possessed powerful antiseptic properties, with much less power of producing irritation: and he therefore devised a form of antiseptic dressing called "the sero-sublimate gauze," which consisted of gauze charged with a solution of corrosive sublimate in the serum of the blood. This, however, was difficult to manufacture, and produced a harsh and non-absorbent material which was mechanically objectionable. It was succeeded, in his hands, by a combination of chloride of ammonium and bichloride of mercury, known as sal-alambroth, which, while much less irritating, was so exceedingly soluble in the blood serum that whenever the discharges from the wounds were copious, it was washed out of the dressing, leaving them without antiseptic property. For these

reasons, Lister, in time, discarded this material, and employed for a considerable period a gauze containing 3 or 4, by weight, of the biniodide of mercury. This was less soluble, non-volatile, powerfully antiseptic, but, again, extremely irritating, so that the least contact with the skin produced an intense erythema, even going on to vesication.

Lister was then led to look further for the ideal antiseptic, and finally to employ the double or mixed cyanide of mercury and zinc, which he is now using. Its most evident advantages are, first, that it is non-volatile; next, that it is almost entirely unirritating; thirdly, that it is insoluble in water and only soluble in 3000 parts of blood serum; and, finally, that, while it possesses but little germicidal value, its inhibiting power is so high that a 1-200 solution is sufficient to keep animal fluids permanently free from putrefaction. This combination of qualities is possessed by no other of the antiseptics which have been mentioned, and its deficiency in germicidal power is easily remedied by including in the manufacture of the gauze dressings which are impregnated with this material a small percentage (1 in 4000) of sublimate, enough to be germicidal, but too weak to be markedly irritating. As I have said, I was told the details of this method *confidentially* in the summer of 1889. The communication was confidential because, while Lister was experimenting with other dressings, notably the sal-alambroth, the announcement had been made by others that he was using them and they were extensively employed at a time when he was quite unprepared for publication upon the subject. Until November, 1889, therefore, I employed the double cyanide only in my private work, but since that date, when Lister published his own conclusions on the subject, have also used it after nearly all my operations at the University Hospital. I present herewith in tabulated form the results of the most important of these operations, exclusive of dozens of minor cases which, while as a matter of fact they often test severely the efficacy of any surgical dressing, might be expected to get well under almost any form of treatment.

I have grouped the cases roughly and have avoided unnecessary detail for the sake of economy of space, the main object in publishing them now being to establish the efficiency of the double cyanide dressing and its freedom from dangerous qualities.

# TABLE OF SURGICAL CASES TREATED SINCE BEGINNING THE USE OF THE DOUBLE CYANIDE GAUZE.

(SEPTEMBER, 1889, TO DECEMBER, 1890).

| No. of Cases,<br>Group. | OPERATIONS.                                                         | MEMORANDA.                                                                                                                                                                                      | RESULTS.                                                                                                                                                                                                                   |
|-------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 13                    | Removal of cervical glands for tuberculous adenitis.                | Wounds varied in length from two to six inches; in five cases, the dissection was most extensive, being carried along the oesophageal line; in four, caseation and suppuration already existed. | Except in the suppurating cases, union by first intention along the whole length of the wound. Drainage tube usually employed, but withdrawn during first two or three days. Fever rarely too after second day. No deaths. |
| 2                       | Rephining of cranium.                                               |                                                                                                                                                                                                 |                                                                                                                                                                                                                            |
| 3                       | For compound fracture.                                              | Wounds already infected by vulnerating body, and by dirty fingers; careful sterilization by 1:500 sublimate.                                                                                    | Union of scalp wounds by first intention, no pus, no fever, no deaths.                                                                                                                                                     |
| 4                       | For epilepsy.                                                       | In every case operation performed on account of history of traumatism.                                                                                                                          | In three cases union by first intention; one death from suppression of urine and uræmia in an old alcoholic.                                                                                                               |
| 3                       | Abdominal section.                                                  |                                                                                                                                                                                                 |                                                                                                                                                                                                                            |
| 8                       | For removal of uterine appendages.                                  | In every case 1:10000 bichloride solution was used for hands and sponges, and when required, for irrigation. Tube used in three cases.                                                          | Union by first intention, except in two of the tube cases, in which stitch abscess occurred; no deaths.                                                                                                                    |
| 4                       | For intestinal obstruction.                                         | In two cases there was general purulent peritonitis and great distention. The obstruction in all four cases was from bands.                                                                     | In two, union by first intention, and recovery; in the others, death within first 24 hours.                                                                                                                                |
| 4                       | For peri-typhilitic abscess.                                        | In two, removal of vermiform appendix; in two, evacuation of abscess and use of drainage tube.                                                                                                  | One death in 24 hours, probably from ignorance of nurse, who neglected the drainage tube. In others, rapid recovery, without fever or other alarming symptoms.                                                             |
| 1                       | For removal of tumor of abdominal wall, and cure of ventral hernia. | Operation very tedious and prolonged, involving much handling of tissues. Wound brought together by sutures <i>en étages</i> . Patient old and infirm.                                          | Extensive "aseptic suppuration," <i>i.e.</i> , without fever, pain, or other symptoms, thought to be due to traumatism to the thick layer of subcutaneous fat. Recovery with good, firm cicatrix.                          |
| 4                       | Hypogastric section and cystotomy.                                  |                                                                                                                                                                                                 |                                                                                                                                                                                                                            |
| 1                       | For exploration.                                                    | No satisfactory explanation found for violent and persistent vesical symptoms, which had lasted for 29 years.                                                                                   | Rapid healing, no suppuration.                                                                                                                                                                                             |
| 4                       | For removal of calculus.                                            | Three stones weighing over two ounces. One small oxalate calculus.                                                                                                                              | All recovered without suppuration.                                                                                                                                                                                         |
| 1                       | For prostatectomy.                                                  | Very extensive operation, removal of large portions of the prostate.                                                                                                                            | Death on eighth day from uræmia and suppression of urine. Kidneys almost completely disorganized.                                                                                                                          |
| 1                       | For exploration and drainage.                                       | An enormous prostate with absolute retention. Patient old and feeble.                                                                                                                           | Lived a year in comparative comfort.                                                                                                                                                                                       |
| 5                       | Excision of varicose long saphenous vein.                           | Veins extremely long and tortuous. Patient disabled. Incisions 18 and 19½ inches in length.                                                                                                     | Rapid union. No suppuration.                                                                                                                                                                                               |
| 6 14                    | Excision of breast, with removal of axillary glands.                | In all, complete removal of breast, opening of axilla, and removal of axillary glands.                                                                                                          | Not a single suppurative case. Average time of healing and discharge from hospital, 11 days. Average number of full antiseptic dressings, three.                                                                           |
| 7                       | Arthroctomy of knee.                                                | In all of them, most extensive removal of synovial membrane, ligaments, cartilages, and osseous foci of disease. All tubercular.                                                                | In all, rapid primary union of skin wound. In two, persistent suppuration in track of drainage tube, but final healing. In one at this date (eight months after operation) reopening of sinus. In others, apparent cure.   |
| 8                       | Removal of foreign body from knee-joint.                            | A portion of needle found partly within, partly without synovial cavity.                                                                                                                        | Primary union under first dressing.                                                                                                                                                                                        |
| 9                       | Removal of superior maxilla.                                        | All three cases of malignant tumors.                                                                                                                                                            | Primary union of skin incision; all recovered from the operation.                                                                                                                                                          |
| 10                      | Removal of both superior maxilla, with a portion of the malar bone. | For osteoma of both maxilla.                                                                                                                                                                    | Primary union of skin. Entire recovery from the operation.                                                                                                                                                                 |
| 11                      | Removal of a portion of the inferior maxilla.                       | For osteosarcoma.                                                                                                                                                                               | Primary union of skin. Prompt recovery.                                                                                                                                                                                    |
| 12                      | Excision of elbow.                                                  |                                                                                                                                                                                                 |                                                                                                                                                                                                                            |
| 1                       | For tuberculous arthritis.                                          | Patient had already undergone several operations upon other joints.                                                                                                                             | Union by first intention under two dressings, except in track of drainage tube. Entire union in three weeks. All movements of elbow preserved.                                                                             |

TABLE *Continued.*

| <i>No. of Cases.</i> | <i>OPERATIONS.</i>                                            | <i>MEMORANDA.</i>                                                                                                                                                                                                 | <i>RESULTS.</i>                                                                                                                                                                                            |
|----------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                    | For bony anchylosis.                                          | The anchylosis was the result of an old fracture; the arm was extended and useless.                                                                                                                               | Primary union throughout whole wound under two dressings; functional result, excellent.                                                                                                                    |
| 13                   | Amputations.                                                  |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 3                    | Finger.                                                       | Six, from lacerated wounds in crushing accident; two, from result of telon.                                                                                                                                       | All healed by first intention under one dressing.                                                                                                                                                          |
| 1                    | Forearm.                                                      | From tubercular arthritis of wrist and carpus.                                                                                                                                                                    | Primary union under two dressings.                                                                                                                                                                         |
| 1                    | Arm.                                                          | In old ununited fracture at the upper third.                                                                                                                                                                      | Primary union.                                                                                                                                                                                             |
| 2                    | Foot.                                                         | One malignant tumor of foot, one for crush of foot, both choparts.                                                                                                                                                | One, healed by first intention. Second, recent.                                                                                                                                                            |
| 3                    | Leg.                                                          | All for railroad injury.                                                                                                                                                                                          | Primary union in all.                                                                                                                                                                                      |
| 2                    | Thigh.                                                        | One for malignant growth of lower end of femur; one for tubercular osteitis of knee.                                                                                                                              | In one, antiseptic suppuration in track of drainage tube, which was left in situ for an unnecessarily long time. Final healing. In other, primary union under two dressings.                               |
| 14                   | Radical cure of hernia.                                       | All of these cases were strangulated, all were seen and operated on early. In the inguinal cases Barker's method was used; in the femoral, a modification of that method.                                         | All recovered from the operation. In two, there were fever and suppuration along the track of the catgut drainage. In one there is already a return of the hernia. In the others the cure seems permanent. |
| 3                    | Inguinal.                                                     |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 2                    | Femoral.                                                      |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 15                   | 2 Parotid tumor.                                              | Both cases were examples of tumors over the parotid, originating in the lymphatic rather than true tumors of the parotid itself.                                                                                  | Primary union in one. In the other, a little aseptic cozing for a week.                                                                                                                                    |
| 16                   | 1 Osteotomy and refracture of bones of the forearm.           | For angular deformity following badly treated fracture. Open wound.                                                                                                                                               | Primary union under two dressings. Cure.                                                                                                                                                                   |
| 17                   | 1 Myotomy of adductor, sartorius, and tensor vaginae femoris. | For contractures of long standing.                                                                                                                                                                                | Primary union.                                                                                                                                                                                             |
| 18                   | Removal of tumors.                                            |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 11                   | From scalp.                                                   | In eight cases the operation was for the removal of sebaceous growths. In three, included here for convenience, a painful scar was excised for supposed traumatic epilepsy.                                       | In every case there was primary union, except (in three), along the track of the drainage tubes. In no case was there fever or suppuration.                                                                |
| 3                    | From neck (exclusive of tubercular glands).                   | Hydrocele of the neck; two malignant growths of neck.                                                                                                                                                             |                                                                                                                                                                                                            |
| 4                    | From back.                                                    | Three fatty tumors; one large cyst.                                                                                                                                                                               |                                                                                                                                                                                                            |
| 1                    | From thigh.                                                   | One large fatty tumor.                                                                                                                                                                                            |                                                                                                                                                                                                            |
| 2                    | From tongue.                                                  | One cyst; one malignant growth.                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 1                    | From tonsils.                                                 | For hypertrophy.                                                                                                                                                                                                  | There were no deaths.                                                                                                                                                                                      |
| 10                   | 1 Ligation of brachial at two points.                         | For ruptured traumatic aneurism; old operation.                                                                                                                                                                   | Some sloughing from pressure previous to operation. Slow healing afterward, with aseptic suppuration. Case ran a febrile course to entire recovery.                                                        |
| 20                   | Sequestrotomy.                                                | In these cases the cyanide gauze was used freely as packing, and was found to work excellently well. As the bone cavities slowly granulated, the discharges remained sweet, and were serous rather than purulent. | Recovery in each case.                                                                                                                                                                                     |
| 2                    | Of femur.                                                     |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 2                    | Of tibia.                                                     |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 1                    | Of cranium.                                                   |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 21                   | Ununited fracture.                                            | Both of these cases were operated on by wiring. In the former the implantation of sterilized bone was tried, but was not successful.                                                                              | One failure; one recovery. No suppuration or fever in either case.                                                                                                                                         |
| 1                    | Of humerus.                                                   |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 1                    | Of tibia.                                                     |                                                                                                                                                                                                                   |                                                                                                                                                                                                            |
| 2                    | Abscess.                                                      | In all of these, antiseptic irrigation with bichloride was used, and recently with peroxide of hydrogen, always followed by packing with either cyanide or iodoform gauze.                                        | All recovered. Profuse suppuration ceased almost immediately, and the cavities rapidly closed during a moderate serous cozing.                                                                             |



TABLE—Continued.

| No. of Cases. | OPERATIONS.                                                                | MEMORANDA.                                                                                                                                                                               | RESULTS.                                                                                                                                                                                |
|---------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                                            |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 6             | Acute.                                                                     |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 5             | Chronic.                                                                   |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 2             | Of bone.                                                                   |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 23            | Perineal section.                                                          | In all, the retained catheter was used, and the wound was treated in accordance with the anti-septic methods described in this paper. Cyanide gauze packing was employed when necessary. | Recovery in every case but one, in which nephropylitis probably occurred. Exploratory nephrotomy was recommended, but refused, and the patient, a child, passed from under observation. |
| 3             | Rupture of urethra.                                                        |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 2             | False passage.                                                             |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 1             | Traumatic stricture.                                                       |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 24            | Plastic operation.                                                         | Union by first intention in all except two, in which tension caused separation of line of flaps. In those, union by granulation took place.                                              | Recovery.                                                                                                                                                                               |
| 1             | To make upper lip.                                                         |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 2             | To make lower lip.                                                         |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 1             | To remove epithelium of cheek and lower lid.                               |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 25            | Anal and rectal operations.                                                | In these cases, either the cyanide or the iodoform gauze was used in packing.                                                                                                            | Recovery in every case. A febrile course. No suppuration.                                                                                                                               |
| 8             | For fissure.                                                               |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 6             | For hæmorrhoids.                                                           |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 10            | For fistula.                                                               |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 1             | For rectal fibroids.                                                       |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 26            | Compound fractures, in which drainage and anti-septic dressings were used. | In these cases sterilized iodoform was used in addition to the gauze.                                                                                                                    | Recovery in every case. No fever. No suppuration, except in the last case when the injury was crushing, and the damage to tissues excessive.                                            |
| 3             | Skull (included under trephining).                                         |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 1             | Humerus.                                                                   |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 1             | Humerus, and both bones and forearm.                                       |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 6             | Tibia.                                                                     |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 4             | Both bones of leg.                                                         |                                                                                                                                                                                          |                                                                                                                                                                                         |
| 3             | Tarsus and metatarsus,                                                     |                                                                                                                                                                                          |                                                                                                                                                                                         |

It will be observed that there are but five deaths in this list, two of them due to pre-existent and chronic disease; the other three were abdominal cases, operated on with the patients almost *in extremis*, with swollen bellies, intestinal paresis, and in one case with suppurative peritonitis. The surgeon who has not lost such as these in spite of his best efforts and most careful application of antiseptic and operative methods has, indeed, been fortunate.

I can truthfully say that in the whole list there have not been six freely suppurating cases, and that there have been no cases of septic trouble, and no deaths from any form of blood-poisoning.

The majority of these cases have been observed

from beginning to end by sections of the University class, and have been under the daily care of my residents at the University Hospital. Of most of them I have elaborate clinical reports, made by members of the third year classes, and handed in to my assistants at the completion of the case.

Upon others I have operated in private for well-known physicians. I am sure that all who have seen these cases, whether students or practitioners, will corroborate my statements both as to the harmlessness and the efficacy of the method in question.

I am glad to be able to give this positive testimony in favor of the latest Listerian method, which, while it may not be permanent (as there

are yet many opportunities for improvement before the *ideal* dressing is reached), is obviously undeserving the epithets of "deadly and dangerous," applied to it by Mr. Tait. without, I will venture to say, his having taken the trouble to watch its effect in a single instance, to calculate the quantity of cyanide in a single dressing, to consider the improbability of absorption, or indeed to give the matter any serious consideration whatever. For an example of the unscientific spirit which Mr. Tait justly claims for himself, and for absence of the humility which he unjustly pretends to associate with it, as well as for absolute recklessness of statement, commend me to the paragraph I have quoted about the cyanide dressing.

I must not be understood in my eulogies of antiseptics as meaning to depreciate efforts made to attain the surgeon's ideal condition of operative wounds, *i.e.*, perfect asepsis. There is no opposition between them. On the contrary, asepsis is the outcome of antiseptics, but I must confess to grave doubts of the efficacy of many of the means advocated to this end, and some of the testimony in relation to it. These doubts are founded on a comparison between published results and observed cases in the hands of some eminent European surgeons—the almost uniform effect upon my mind of such opportunities of comparison having been a distinct loss of confidence in the statistical reports. I saw, for example, a series of cases of excision of the breast, with pigmented irritable scars, with supuration, with dressings that were perceptibly stinking, shown to a distinguished surgical audience, the operator and lecturer being a vigorous advocate of asepsis as opposed to antiseptics, and having in his clinic elaborate apparatus for the sterilization of dressings by steam heat under pressure, admittedly the best of all the non-chemical sterilization methods yet discovered. These cases were in such marked contrast to what I had read of the results obtained at this clinic that the experience was a great shock to my faith in current surgical literature, a shock from which it has scarcely yet recovered.

It cannot be disputed in the light of modern science the operator has a two-fold duty, *viz.*, to prevent the entrance of living pathogenic microbes into the wound, and at the same time to preserve the vitality of the tissues themselves.

We have already spoken of the phagocytic theory of Metchnikoff\*, and in addition we have learned through Waterhouse's experiments†, and through the clinical experience already spoken of, of the anti-bacteric power of the peritoneum. Bouchard and others have observed the destruction of bacilli by the spleen and their elimination by the kidneys, as in typhoid fever. Buchner and Subarsch‡ have shown the bactericidal power of blood-serum or of some substance such as the fibrin ferment contained therein. We have abundant reason, therefore, to believe in a general antagonism between the body cells and the micro-organisms of disease, even if, with our friend, Dr. William Osler§, we are compelled to consider the question of phagocytosis as still an open one. It follows that the theoretical propriety of non-interference with these tissues cannot be doubted, and Lister plainly admitted and accepted this new view when he said that the floating particles of the air having been shown to be less harmful than was supposed, we may possibly dispense with antiseptic washing and irrigation, "provided always that we can trust ourselves and our assistants to avoid the introduction into the wound of septic defilement from other than atmospheric sources."

When this method is adopted it is evident that all strong antiseptic solutions which might compromise the vitality of the tissues must be discarded: instruments, silk, ligatures, sponges, etc., must be sterilized by heat, hands must be washed clean in sterilized water (after previous chemical disinfection), and the same is true of the skin over the field of operation. If antiseptic solutions are used at all they must be very feeble—1:60 carbolic for instruments (after previous sterilization by heat), 1:10000 sublimate for sponges, etc.

In the meantime, however, while waiting for further improvement in this direction I have felt and still feel that it is safer in a large general clinic, with several assistants and with numbers of students actively participating in the operative work, to depend upon full antiseptics rather than upon asepsis, and I have in the cases above cited and in large numbers of others, not of enough

\*Fortschritte der Medizin. Bd. 2, 1884, No. 17.

†Virchow's Arch., Bd. 119, heft 3, p. 34.

‡Versammlung Deutsch Naturforsch und Aerzte; Heideburg, 1889.

§Medical News, April 13 and 20, 1889.

importance to include in the table, employed the following methods, substantially based on those of Lister himself, as described to me in a private letter last January. They represent, therefore, the latest views made public before the Berlin address.

I need not detain you with a description of the preparation of the gauze itself. This can be found in detail in *The Lancet* for November 9, 1889, and January 4, of this year.

Immediately over the wound is placed a portion of the cyanide gauze, washed in a solution of carbolic acid to get rid of the bichloride of mercury in the dressing in contact with the wound. For this purpose one part of carbolic acid to twenty of water is safer than any weaker solution. A very pure acid should be used, because, if impure, it is not completely dissolved, and the undissolved particles are needlessly irritating to the surgeon's hands. When a dressing is changed this piece of gauze is applied over the wound before the surrounding parts are cleaned with the carbolic solution. The carbolic acid soon flies off from the washed gauze, leaving nothing in it in contact with the wound but the unirritating cyanide.

By proceeding in this way it is not necessary to use "protective." The amount of unwashed gauze to be applied will depend upon the amount of discharge anticipated.

In the early stage of a wound, where we expect much sero-sanguineous oozing, it is desirable to use a considerable mass, say an inch in thickness, and extending on all sides beyond the wound. Further, it is well, where free discharge may occur, to place over the dressing a piece of thin mackintosh with the caoutchouc side (antiseptically washed) next the dressing. This is for the purpose of preventing the discharge from coming directly through the dressing. It should not, of course, overlap the gauze, nor need it even extend to its edge. When the part operated on is placed on a splint, as after resection of the knee, the padding of the splint is lined with such a piece of mackintosh.

It is unnecessary to purify bandages or elastic bands that are placed outside of dressings, but if a bandage is used in the interior of a dressing, as in bandaging a stump next the skin, it is purified sufficiently by soaking it thoroughly with a solution of corrosive sublimate 1:2000.

For purifying the skin 1:20 carbolic acid in 1:500 sublimate solution is used. The towels placed around the seat of operation are wrung out of 1:2000 sublimate lotion, and this is also used for the sponges during the operations. The carbolic solution is used for purifying the instruments before an operation. At the end of an operation, before beginning to stitch, the wound may be washed with 1:500 sublimate lotion, and irrigated with 1:4000 during the stitching.

But where a joint, such as the knee, is opened, the use of the strong sublimate solution, which is seriously irritating to the synovial membrane, should be avoided; and in that case it is better to irrigate through the whole operation with 1:4000. As to rendering wounds aseptic which have been infected, that is, speaking generally, a thing on which we can never reckon with absolute certainty; in recent wounds, like compound fractures, the chance of success is, of course, always greater the shorter the time that has elapsed after the infliction of the injury.

If the skin and wound are greasy, oil of turpentine is of great value for cleaning away the dirt, and the use of a nailbrush with carbolic and sublimate solutions, after the turpentine (or without it if there be no special occasion for its use), is very valuable. In many cases where septic sinuses are present, it is hopeless to try to extirpate the septic mischief; but very great advantage is gained by washing the cut surfaces in an operation under such circumstances with a solution of chloride of zinc, forty grains to the ounce of water. This is done once for all at the conclusion of the operation, and prevents putrefaction during the critical early day. The same solution is used where the wound communicates with a septic cavity, as after the removal of a portion of a tongue, or of a jaw; and under these circumstances it is also useful to apply iodoform to the cut surface after the chloride. In cases in which the septicly infected part is of very limited extent, as, for example, where a suppurating strumous gland has discharged without an antiseptic dressing, complete disinfection may often be obtained by applying undiluted liquid carbolic acid, after scraping away the degenerated glandular or other tissue with a sharp spoon.

I have recently learned to value peroxide of hydrogen very highly as an antiseptic, especially



in suppurating cases and am using it more largely than ever before.

This address has already assumed an inordinate length on account of the necessity for free quotation, but I cannot conclude it without a protest against the tone of Mr. Tait's paper and against the personal virulence of its references to Lister. There is, unquestionably, room for legitimate differences of opinion as to the treatment of operative wounds; there are many problems relating to the principles involved which are yet unsolved; the precise comparative value of the different factors, which taken together, have given modern surgery its scientific exactness, is yet to be determined: argument and discussion are not only excusable but highly desirable and, conducted in a proper spirit, could scarcely fail to be productive of great benefit to surgery and humanity. But this is not to be brought about by invective or by personal detraction. Mr. Tait discloses his real animus when he complains that for twelve years he has been "ignored" by Lister, and his controversial writings show that he probably belongs to that class of persons who feel far more deeply injured by neglect than by assault.

It is doubtless true that he and his work carried on in a special line and under special conditions, have not in the consideration of the whole subject been elevated into the prominence which he thinks they deserve; but how many of us in this world are taken at our own valuation, either personally or professionally?

Lister's work, since he took his first degree in 1852, has been of a character to command the respect and admiration of the scientific world. Receiving the first prizes in botany and anatomy when he passed the M.B. examination, he won the gold medal and scholarship in surgery in the final examination. His papers on the minute anatomy of the skin, the physiology of the lacteal current, the contractility of the iris, the microscopic anatomy of involuntary muscular fibre, the relations of the inhibitory system to the visceral nerves, the regulation of arterial contraction by the nervous system, the early stages of inflammation, the coagulation of the blood, etc., etc., stamped him at once as an original investigator of the first rank, and as one of his biographers says, "would have sufficed to make his career memorable if he had never

applied antiseptic measures to the treatment of disease." I have heard Prof. Louis Agassiz years ago, and later Prof. Joseph Leidy, say that, viewed from the standpoint of abstract science, his work had been of the very highest order, and the appreciation of his labors by the best minds in our own profession has been enthusiastic and almost universal. Nearly every great surgeon in the civilized world has put on record his admiration for Lister's teachings, his acceptance of the general principles involved, and his sense of almost personal obligation to the author of the antiseptic theory.

That Mr. Tait should speak of such a man as having "lived in the clouds of his spray for the last twelve years," as "wanting in logic," having "crude notions of logical definition," making "illogical blunders," "falling away from his own faith," promulgating an "absolute and ludicrous logical error," etc., and should make a boast of having "laughed at" and "ridiculed" him and his doctrines and disciples, is, it seems to me, evidence of his unfitness by temperament or training (or from lack of the latter) for the serious discussion of broad surgical principles. I am quite sure that the vast majority of general surgeons will be found to have no sympathy with either his views or his manner of expressing them, and it is a relief to find that in his own special line there are operators of equal eminence who repudiate both. In an address on "Abdominal Surgery, Past and Present," recently delivered before the Medical Society of London, its president, Mr. J. Knowsley Thornton said: "I am not ashamed still to use the spray and all the precautions which have advanced my results in ovariectomy to 1.88% mortality,\* and I find increased practice and a steady adherence to methods which have yielded me good results in the past, increase in like ratio my success in all abdominal operations. Every operator of prominence improved his results enormously as soon as he adopted Listerism; then having learnt how to be surgically clean, he has found for himself ways of attaining this end with more or less success by methods differing from those of Lister. The sum and substance of it all is, that if we had never had Lister to teach us true cleanliness, we should never have used antiseptics, flushings, or drainage tubes to attain it. The

\*As against Bantock's 4 and Tait's 3.3.

great advance is due to the antiseptic system, the minor details are merely the different ways of attaining the same end—asepticity. Time alone will show what is worth retaining and what we may safely cast aside.”

### Selections.

**PEROXIDE OF HYDROGEN.**—This is a drug which has been gradually and steadily gaining in favor, which has not been bolstered upon the profession by means of the false statements of dealers, or the still more misleading reports of unscientific enthusiasts, but which has yielded to each, who has faithfully tried it, results so constant and so satisfactory that he has learned to depend upon it.

As ordinarily found in the shops, peroxide of hydrogen is a 3.2 per cent. solution, yielding fifteen times its bulk of oxygen. This solution is far more potent than is water charged with fifteen times its volume of oxygen, since in the peroxide preparations the gas is given off in its nascent state, and is peculiarly powerful in its chemical affinities.

There is abundant evidence as to the value of peroxide both from the clinical and the experimental standpoint. The number of those who have reported excellent results from its use is very large, and to this must be added the testimony of the bacteriologists, who find in this drug a potent and almost immediate germicide. It is devoid of septic properties, its worst effect being, when used in a too concentrated form, to cause some local pain and irritation. It is applicable to all cases where there is pus, and when the discharge is foul and profuse is unequalled in the effect it produces. In suppurating otitis media, in purulent conjunctivitis, the aurists and ophthalmologists have long prized it as one of their most valuable medicaments. In the sloughing inflammations following scarlet fevers and diphtheria the laryngologists place great confidence in its powers. The surgeon, however, in whose work it would prove generally valuable, has been most chary in recognizing its virtues. There are reasons for this. The preparation is unstable; in past time it has frequently been impure, and unscrupulous or ignorant pharmacists may palm off on the profession preparations which have lost their power and

become absolutely inert. At the present time peroxide of hydrogen can be obtained pure and of full strength (3.2 per cent. solution).

Its use in a great variety of sloughing and suppurating cases has given results better than those obtained from any other germicide, bichloride of mercury not excepted. Where the discharging area is represented by a surface of granulations, the drug can be applied by means of an atomizer; this enables a small quantity to reach every portion of the infected surface. In the case of a suppurating fistula or cavity, the peroxide may be injected by means of a syringe. Immediately following its application to a purulent surface an active effervescence goes on, and every particle of pus which it reaches is destroyed. Not only this, but the microbes, the active agents of pus formation, are also devitalized, so that a large surface can sometimes be rendered aseptic by one or two thorough applications. Even if this result is not reached, the discharge is greatly lessened, and it is by no means uncommon to see a case, the pus from which could be counted by drachms, so favorably affected that the dressings contain but a few drops of purulent matter.

The strength in which the fifteen volume solution is used will vary with individual cases. It can be employed without harm in full strength. Where this is painful, one, two, or four parts of water may be added.—*University Med. Magazine.*

**THE CURABILITY OF GALLOPING CONSUMPTION.**—The announcement by so well-known a physician as Dr. McCall Anderson that acute phthisis, or galloping consumption, is curable, excites a good deal of surprise and quite as much incredulity, yet Dr. Anderson reports in the *British Medical Journal* seven cases of this character, of which five recovered. Acute phthisis is considered by Dr. Anderson to have two forms, acute tuberculosis and acute pneumonic phthisis. Some of his cured cases were of the tubercular character. The treatment advised is given in detail, and contains no especially new feature. “The principal indications,” he says, “are: 1, to keep up the strength; 2, to keep down the fever; and 3, to treat any special symptom or complication which may arise. 1. Two thoroughly-trained and reliable nurses are indispensable, one for day and the other for night duty; for without admirable



nursing no hope of improvement can be entertained; and the hygienic and other surroundings of the patient should be satisfactory, so that we need not be surprised that, when the disease occurs in the homes of the working classes it is almost necessarily fatal, and that hospital patients have the best chance of recovery. The patient must be fed constantly on fluid food (soup being avoided if diarrhoea is present) both day and night, and stimulants (from 3ij. to 5x.) are required early in the attack, but should be given in small quantities, frequently repeated and along with the food. In fact the dietetic treatment should correspond with that of a case of fever presenting symptoms of a similar degree of severity. 2. At bedtime a subcutaneous injection of sulphate of atropine (gr.  $\frac{1}{100}$  to gr.  $\frac{1}{80}$ ) is given. This checks perspiration when present, acts as a sedative to the system, indirectly helps to reduce the fever, and diminishes the secretion from the lungs. 3. Remedies are given with the view of lowering the temperature. This is a point of the utmost consequence, because the majority of the patients die consumed by the fever. Some benefit is derived by allowing the sufferer to suck ice freely, by giving the food and drinks iced, by sponging the body with iced vinegar and water, or even by using iced enemata. But our main reliance is upon one or more of the following methods: (a) Niemeyer's antipyretic pill or powder every four hours, containing gr. j. quinine, gr.  $\frac{1}{2}$  to gr. j. digitalis, and gr.  $\frac{1}{4}$  to gr.  $\frac{1}{2}$  opium. The proportion of opium may even have to be increased beyond this if there is much diarrhoea. The effect of the digitalis must be carefully watched, and it must be omitted for a time if the pulse becomes preternaturally slow and irregular and the secretion of urine very scanty. (b) The administration daily—particularly before the temperature tends to be highest—of from ten to thirty grains of quinine, given as suggested by Liebermeister, either in a single dose or, at all events, within an hour. (c) The application of iced cloths to the abdomen for half an hour every two hours so long as the temperature exceeds 100°. The application of iced cloths is made in this way: The night-dress is pulled up over the chest so as to avoid any possibility of its being wet, and, for a similar reason, a folded blanket is placed across the bed under the patient's body. The

usual bedclothes are arranged so that they reach up to the lower part of the chest only, which latter is covered by a separate blanket in order to prevent unnecessary exposure while the cloths are being changed. Two pieces of flannel are employed, each being sufficiently large when folded into four layers to cover the whole of the front and sides of the abdomen. One of these, wrung out of iced water and covered with a piece of dry flannel, to protect the bedclothes, is applied, while the other is lying in a tub of iced water at the side of the bed. The pieces of flannel are changed every minute, or so often that they still feel cold when they are removed. The changing of the flannel, particularly when two persons are in attendance, one to remove the bedclothes and the flannel, the other to apply the piece which is freshly iced, can be accomplished in a few seconds." *Med. Record.*

HERNIA OF THE FALLOPIAN TUBE. — At the Leipsic Obstetrical Society, Dr. von Tischendorf read notes of an interesting case of femoral salpingorele. The patient was an elderly woman, with symptoms of strangulated femoral hernia. The sac appeared, before operation, to contain omentum. When opened, no omentum was found, but the left Fallopian tube much enlarged on account of oedema. It bore, close to the ostium, a prominence of the size of a cherry, caused by dilatation of its walls. This prominence fitted into a corresponding depression in the hernial sac. Both tubes and sac were removed; recovery was uninterrupted. Dr. von Tischendorf could only find four cases of the kind reported in medical literature, and of these, two occurred many years since.—*British Medical Journal.*

Prof. Da Costa thinks that the exclusive use of a "milk diet" in typhoid fever is overdone. The stools should be carefully watched to see that the milk does not disagree. His plan is to use three pints of milk and one pint of broth in the twenty-four hours, given alternately, with a mid-day meal of arrow-root, or other thickened food. It should be given every two hours during the day, and every three hours at night. In very light cases it may be given every four hours at night, but under no circumstances should nourishment be used less frequently.—*Coll. and Clin. Record.*

# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, JANUARY 1, 1891.

## THE CANADIAN PRACTITIONER.

We are glad to be in a position to state that the present prospects for our journal are exceedingly bright. We are deeply indebted to our numerous contributors for their valuable assistance during the past year. It is only fair to say that we depend largely on the staff of the medical faculty of the University of Toronto for material purely scientific and medical in its nature. Beyond this we do not pretend to know any particular schools or cliques, but prefer rather to represent the views of all parties who are desirous of raising the standard of medical education in this country.

It will be our pleasure, as well as our privilege, to publish in our various issues of the early months of the present year the addresses which were recently delivered at the University post-graduate course. We have reason to know that this will be highly appreciated by our readers who were not able to listen to these lectures. We cannot of course do justice to those addresses which were largely demonstrative in their character. Those who were not able to be present have suffered a loss, which, to us, seems very considerable, and for which we cannot provide an adequate remedy. However, we will do our best to give our readers as full a report as possible of what has proved to be probably the best course of medical lectures ever delivered in Canada.

We will continue to devote a large portion of our space to reports of cases in hospitals and private practice, as well as reports of various medical societies in Canada and United States. Our selections will be chosen with care by men specially qualified in the various departments of

general and special surgery and medicine. It is no easy task to keep fully abreast of the times in all directions, but we have a number of assistants whose ability and energy warrant us in saying that we are not likely to overlook anything in the medical world which is likely to prove useful and interesting to our readers.

We are pleased to know that our subscribers approve of the change by which the journal has become a bi-monthly publication. It has involved an increase of expense and work both to publishers and editorial staff, but such results have caused no regrets. We are well satisfied with our present position. We are receiving much encouragement from our patrons, for which we feel very grateful. We think we have good reason to say that our 16th volume for the year 1891 will be the best which the publishers of THE PRACTITIONER have yet offered to their subscribers. To all our friends, we have much pleasure in tendering our best wishes for a happy and prosperous New Year.

## THE MEDICAL POST-GRADUATE COURSE IN THE UNIVERSITY OF TORONTO.

Since the re-establishment of the Medical Faculty of the University of Toronto, the interests of both physicians and students have always been considered by the authorities. Two years ago Dr. Osler kindly complied with the earnest desire of the Faculty, and gave a course of lectures on cerebral localization, which was largely attended by students and practitioners of Toronto and other places. Last year the formal opening of the new building of the Biological Department was accompanied by a course of lectures and demonstrations by Professor Ramsay Wright and a number of distinguished scientists from the United States, which was well attended and highly appreciated.

Influenced by the good results arising from these lectures, the Faculty decided this year to institute courses, more comprehensive in their character, to be given annually. After a definite decision was reached the time for preparation was rather short, and grave doubts were expressed by some as to the prospects of success. However, this Faculty does not do things in a half-hearted way. Subjects for discussion were chosen promptly: an equitable division of

labor was made; all worked with a will; an excellent programme was prepared; and at the conclusion of the proceedings it was a satisfaction to all concerned to know that nothing happened to prevent any of the numerous lecturers from appearing on the days specially assigned to them.

The Faculty was particularly happy in its choice of distinguished visitors. Professor Vaughan, the distinguished bacteriologist from Ann Arbor, was already well-known to many in this Province, and it was a matter of no surprise that he met such a large and enthusiastic audience on the second morning, when he gave his admirable lecture and demonstration on the etiology of typhoid fever. Dr. A. R. Robinson, of New York, happens to be a Canadian and a graduate of the University. Many of his contemporaries, who had been fellow-students in times past, were pleased to have the opportunity of meeting him and listening to his excellent lectures. Dr. Robert Abbe, of New York, and Dr. J. William White, of Philadelphia, delivered able addresses, which were highly appreciated by those who were present. It is only fair to add that the lectures and demonstrations given by various members of the teaching staff of the Faculty were especially interesting and instructive.

We are pleased to know that the post-graduate course is a fixture, and will be given annually. It certainly involves a vast amount of labor, and a considerable expense: but we know of no way in which scientific work is likely to do more good to the profession of our country, and we think that money spent in such a manner can scarcely be considered as wasted. As to the success of the course last month there can scarcely be two opinions: but we prefer to leave that aspect of the matter to those who were in attendance.

#### KOCH'S TREATMENT OF TUBERCULOSIS.

The experiments which are being carried on with Koch's lymph in the treatment of tuberculosis in various parts of the world are creating much interest. Many objections have been raised to Koch because he has kept his remedy a secret as far as its composition is concerned. Those who know him best defend him from any such charges. He is well known as one of the most conscientious and earnest workers in

scientific medicine that has ever lived. In keeping the composition of his lymph a secret for the present, he is acting on the advice of friends, some of whom are armed with governmental authority. There can be little doubt that the secret will be given to the world as soon as it is sufficiently elaborated to make it safe to do so. In the meantime, the lymph will be given to hospitals in all parts of the world as soon as it can be prepared. Already a fair amount has been distributed, and more will follow as soon as possible. A small amount was sent to two Canadian hospitals, the General of Montreal, and the General of Toronto. Unfortunately the first material sent to Toronto was destroyed in its passage. A small amount has been obtained by Dr. Bingham, of Trinity Medical School, and injections will be made on Monday, Jan. 5th.

Thus far we have learned that the remedy produces decidedly beneficial results in laryngeal tuberculosis, lupus, tuberculous joint diseases, and probably early pulmonary tuberculosis. It must in any case be used with caution, and in advanced phthisis it has generally done more harm than good. In some cases it has probably produced fatal results, especially when there are gross changes in lung tissues, or extensive ulcerations in the intestines. It is hoped that we will receive much definite information in the near future from Professor Ramsay Wright, who is now working in Koch's laboratories.

[NOTE.—Since writing the above, we have received interesting letters from Prof. Ramsay Wright and Dr. Jas. Thorburn, which will be found in this issue.]

#### POST-GRADUATE COURSE IN LONDON, ENGLAND.

The post-graduate course in London did not receive as much support last year as its friends thought it deserved. From a letter in the *Medical News* we learn that this year it is in a flourishing state, and that the members in attendance are large. It has not yet become popular with those residing outside of Great Britain, as is shown by the fact that the total number of such in attendance is only four, of which three are from Canada, and one from the United States.



## Meeting of Medical Societies.

### TORONTO MEDICAL SOCIETY.

Nov. 20, 1890.

The President, Dr. Spencer, in the chair.

Dr. George Acheson narrated the following cases :

#### I. — FRACTURE OF THE EXTERNAL CONDYLE OF THE HUMERUS.

A girl, *æt.* 6, fell down stairs and sustained a fracture of the external condyle of the humerus. The injury is very unusual. The treatment was to put the arm on a splint in the flexed position ; good union was present in two weeks.

#### II. — DIFFUSE CELLULITIS OF THE ARM AFTER TYPHOID FEVER.

Boy, *æt.* 14, had been ill four or five weeks, when Dr. Acheson was called in. There was a swelling of the left arm from the shoulder to the finger tips. Temperature, 104.3; pulse, 140. It was thought that the boy had a relapse and that the condition of the arm was due to a thrombosis of the brachial vein. Next day the arm looked erysipelatous, red and brawny with a hemorrhagic spot at the inner side of the elbow ; the cuticle was raised there, and there was a bleb containing serum. The following day, concluding that the condition was a cellulitis, several free incisions were made in the arm. Wet antiseptic dressings were applied. The temperature went down, and after a few days large sloughs came away about the elbow ; the median nerve in one inch of its extent sloughed just below the elbow ; the whole of the skin down the forearm was undermined. The question of difficulty was as to the cause of the condition, was septic poisoning introduced from without, or was there first a thrombosis giving rise to an abscess which had become diffuse. After the sloughs separated the arm did well. The future of the case is uncertain. During the convalescence Dr. Acheson allowed the patient to have bread and butter on one occasion — he had previously been on a milk diet. The temperature went up to 105, and there was a marked rigor; the symptoms simulated pyæmia; the arm, however, looked well. There was some pain and tenderness below the right costal margin,

and it was thought that the liver dullness was increased; an unfavorable prognosis was given. Next day, however, his condition improved, and during the days following the temperature remained about 101 in the evening, but he has had no more rigors, and the symptoms of pyæmia have disappeared.

Dr. McPhedran, who had seen the case, thought it undoubtedly erysipelatous in character. The second attack of pyæmia was peculiar, but a patient may recover from pyæmia. Phlebitis is very common after typhoid fever.

Drs. Atherton and Spencer took part in the discussion also, and Dr. Acheson replied.

Dr. R. A. Reeve showed a specimen of

#### NECROTIC SEPTA OF THE MASTOID PROCESS.

A young man a year ago had suppurative inflammation of the middle ear; one month after it was incised over a pointing place over the posterior inferior portion of the mastoid. When examined by Dr. Reeve one month ago, there was a free purulent discharge from the middle ear, and there was a cicatrix over the mastoid. Dr. Reeve surmised that the discharge came from the mastoid ; there were no granulations seen in the middle ear, the drum was in part destroyed; the mastoid process was prominent, there was no swelling or tenderness over it ; the discharge from the ear was offensive; temperature normal. An incision was made, and the mastoid cells chiselled open, and necrotic septa were scraped out, a large mass of succulent vascular mucous membrane was removed, the parts were thoroughly cleaned out, the antrum was scraped, the outer wall of the mastoid process was fully  $\frac{3}{8}$  inch thick, this accounted for the absence of tenderness. There has been no discharge since the operation, only a slight secretion from the mucous membrane of the middle ear, so that the case promises to do well.

This furnishes one of the indications for opening the mastoid cells, *i.e.*, where there is prolonged offensive discharge from the middle ear, and indications pointing to the mastoid cells as the source. The advantage in the use of the chisel in such a case is great, the muco-periosteum was exposed and not injured, and free access to the cavity was obtained. It was cleaned out with peroxide of hydrogen. The patient is a painter, and suffered from naso-

pharyngeal catarrh before the symptoms of middle ear and mastoid disease began. The pointing over the mastoid in the first instance began over the position of the emissary vein.

Dr. B. E. McKenzie exhibited a patient with

#### DOUBLE HIP-DISEASE.

Boy, æt. 8, with history of trouble since three years for age. He has not walked since trouble began. In January, 1888, there was no active disease in either hip: a good prognosis was given, tendons of the flexors and adductors were cut to relieve deformity, and plaster of Paris applied; after three weeks the plaster was removed, and a double Thomas splint substituted. Now the patient is allowed to have the splint off in the day time, and is permitted to attempt walking. At night the splint is re-applied.

Dr. Doolittle narrated the history of a case of

#### HYSTERIA IN THE MALE,

and Dr. McPhedran then read a paper on

#### SIMPLE ULCER IN THE DUODENUM,

which appeared in THE CANADIAN PRACTITIONER for December 16th, 1890, page 564. In the discussion which followed, Dr. Spencer referred to a case diagnosed as a duodenal ulcer in a man æt. 26. Invalided from the Hudson Bay Company fifteen months ago, he had been living on poor food for a long time, and had symptoms of dyspepsia. He had profuse bleeding from the bowel, and complained of pain between the zyphoid cartilage and the navel, also suffered from vomiting. The pain came on almost immediately after meals. Under treatment he improved. After a hearty meal one night all his symptoms returned. Dr. Spencer asked Dr. McPhedran for his views concerning treatment.

Dr. Garrett stated that he had made a *post mortem* examination in a case of sudden death, and discovered a perforating ulcer of the duodenum: the patient had exhibited no symptoms of gastric trouble before death.

Dr. McPhedran, in reply, referred to the difficulty in being sure of one's diagnosis in these cases, the number of latent cases reported is numerous. The treatment is similar to ulceration of the stomach, but more difficult; the digestion is good and the patient anxious for

food, and it is difficult to restrain them. The active treatment is necessarily limited. Pepper prefers the administration of nitrate of silver in small doses long continued, but it probably does no good. The anæmic condition should be treated: it has been found that in animals cicatrization does not go on if there be anæmia. Constipation must be overcome by enemata.

## Hospital Reports.

### HIP-JOINT DISEASE—OPERATION DEATH.

Under the care of I. H. Cameron, M.B., in the Toronto Hospital for Sick Children.

C. L., æt. 6, admitted into the Hospital for Sick Children March 4th, 1890, with the following history: For three months previous to admission she had been complaining of pain in the knee; this was of sufficient severity at times to make her cry out. It was noticed that she was lame when she walked; she never complained of any pain in the hip. She had never suffered from any serious illness and her general health had always been excellent. The parents are living and healthy; the mother's sister died of chest disease. The patient is one of a family of five children, of whom two are dead, one died of "brain fever" at twelve months, the other died of a "head disease," very similar in character, at three months. There had been no miscarriages.

On admission the child looked healthy; she was well nourished; her temperature was 99.4; she had pain in the knee: on firm pressure over the knee, however, she did not complain of being hurt, whilst on pressure over the left hip she at once said it hurt her: there was no swelling nor fluctuation about the hip joint; the pelvis was slightly tilted downwards on the left side: the left leg was abducted and there was apparent lengthening on that side: there was no flexion and no lordosis. The child was placed in bed with the affected limb secured at rest between sandbags, and extension applied. During the latter part of April a swelling was noticed over the hip joint, anteriorly and to the outer side: fluctuation was detected on deep palpation; she complained of pain when moved. The treatment by rest and extension was continued. During the summer she went to the Lakeside Home, and



her general health while there was excellent while the tenderness about the hip diminished; she returned to the hospital in the city in September. A careful examination was made on October 30 and measurements noted. The fluctuating swelling over the outer part of the hip had increased slightly, and had become more superficial; there was no tenderness on palpating this; there was no flexion and no lordosis: the pelvis was tilted; the affected limb abducted, and there was apparent lengthening; the limb was neither everted nor inverted; measurements proved the limbs to be of equal length, with the exception of increased circumference ( $\frac{3}{4}$  inch) of the left thigh over the region of the swelling; there was no disparity between the measurements of the length of the limbs. The amount of extension since admission has been four pounds, applied by means of a stocking drawn over the knee and secured by a roller bandage. Measurements were again made on November 27th, when it was found that the swelling had increased somewhat in size, the circumference of the left thigh at the point of swelling being  $1\frac{1}{2}$  inches greater than that of the right thigh at the same level: the general health continued good.

An operation was performed on Nov. 27. Chloroform was administered and an incision made on the outer side of the thigh anteriorly, carried down to the neck of the femur, between the sartorius and the tensor fasciæ femoris muscles, after Parker's method: a cavity containing pus was opened up by the incision; a second opening was made into this cavity at its lowermost point on the outer aspect of the thigh, and the walls were then thoroughly scraped with the finger nail and the cavity flushed out with 1,000 perchloride of mercury. After the cavity was thoroughly cleansed, the joint was investigated. A roughened portion of bone was felt above the head of the femur, this was discovered after some searching, the joint at first seemed healthy: the neck was divided by means of a key-hole saw, and the freed portion of bone removed; considerable difficulty was experienced in accomplishing this, from the fact that the saw cut had been made beyond the attachment of the ligaments and had included the tip of the great trochanter. The articular cartilage on the head of the bone was eroded;

the cancellous tissue of the head and neck was soft and friable, and was broken up in the efforts to remove the bone: there was found a complete perforation at the bottom of the acetabulum, which would barely admit the tip of the little finger. The roughened bone was scraped with a Volkmann's spoon, some softened pulpy material was scraped from the internal surface of the capsule: the parts were thoroughly irrigated with 1-1000 perchloride of mercury, and the cavity stuffed with iodoform gauze, a drainage tube having been secured in position at the upper opening: a strip of iodoform gauze was brought out at the lower opening, the surface was dusted with iodoform and an antiseptic dressing of perchloride gauze and salicylic wool applied, a long splint from the axilla to the foot was secured in position.

During the operation, after the first incision was made, the limb was grasped below the knee in order that the femur might be rotated: something abnormal in the appearance of the knee was observed before manipulation was begun. On examination it was found that there was separation of the lower epiphysis of the femur; there was very evident movement at this point and soft crepitus: the deformity was slight and was readily reduced. The operation lasted two hours and a half. The patient was sent back to bed. After the operation the patient suffered severely from shock; the pulse at the wrist was barely perceptible: hot bottles were applied about her; brandy and beef tea were administered by the rectum, and later on brandy by the mouth; reaction set in but the pulse remained extremely weak. The following morning she continued very weak; she was, however, conscious and recognized those about her. The temperature had risen to 104. It was thought that she was sinking. She died at 11 a.m., nineteen hours after the operation; the temperature immediately before death rose to 105.8.

*Remarks.*—The case is put on record because of the following facts in connection therewith. The disease was apparently one of early hip joint trouble with the formation of an abscess. The amount of disease revealed at the operation was simply astounding; the extensive amount of disease in the head and neck of the femur and the acetabular perforation were quite unlooked for, and indeed there was nothing

to lead one to suspect the extent of the disease even after laying bare the articulation: only a small area of roughened bone was detected, and this after some searching, during which the question as to whether excision were indicated or not was doubtful. A point of interest in the case further was the separation of the lower epiphysis of the femur without any violence having been exercised on the limb: cases of a similar nature have recently been recorded. The fatal issue was quite unlooked for: the child was in apparently good health before the operation, and the method of procedure adopted was similar to that done every day in hip excisions. The child suffered very greatly from shock, and afterwards from excessive reaction, and this proved more than her vital powers were able to stand.

## Correspondence.

PROFESSOR A. H. WRIGHT, *Secretary Medical Faculty, University of Toronto.*

MY DEAR PROFESSOR,—Since arriving at Berlin, I have been active in making myself *au courant* with the present position of the Koch treatment of tubercle. The telegraphic wires have been so busy that much that I am writing must be already well known to you, and yet I trust the summary which I now send of the case, both from its clinical and scientific aspect, will be of interest. Naturally, as my mission is to endeavor to find out the method of preparation of the lymph, I have been more concerned about the scientific aspect; but the papers are full of clinical reports from all over the continent, which demonstrate that much the same results are being obtained elsewhere as here.

I was somewhat discouraged on arriving to find that it is considered necessary to keep secret in the meantime the mode of preparation of the lymph: but the Minister of Education's speech, in which this was announced, also contained a sentence stating that eventually it may be possible to invite representatives from different nations to Berlin, in order that they may familiarize themselves with the nature of the remedy.

The observations as to the supposed nature of the lymph, which you will find below, indicate

that it is a product of the artificial culture of the bacillus, and I therefore concluded that the first step towards success in my mission would be making myself thoroughly acquainted with the newest methods in vogue in the Hygienic Institute here. Of course the Institute is crowded, but owing to the departure of Dr. Behring, whose experiments on diphtheria are described below, I shall be able to get a working place immediately.

How long the disclosure of the secret may be postponed, I am unable to say, but it is certain that it will only be entrusted to those who are known to the authorities here to be familiar with the latest developments of experimental bacteriology.

Before summarising the results of the treatment so far, a few words about the method of injecting the lymph may not be out of place. Generally the Koch syringe is used, consisting of a graduated glass tube holding 1 or 2 cc.: one end of this, over which the perforated needle slips, is drawn out, while the other fits into a nickel cap separated by a tap from a little rubber bag. Pressure on the latter forces out the lymph through the hypodermic needle. Some operators, like Prof. Ewald, however, use an ordinary hypodermic syringe, with an asbestos washer, which allows of disinfection. It is less liable to fall apart than the Koch syringe.

The original lymph is diluted as follows: 1 cc. is added to 9 cc. of 0.5 per cent. carbolic; this first dilution keeps admirably. Again, 1 cc. of this is added to 9 cc. of the same carbolic solution, and the syringe is graduated to deliver  $\frac{1}{10}$  of a cc., which, in the second dilution, therefore, contain one mg. of the original lymph. The second dilution is kept in glass tubes, closed with a plug of cotton wool, and also keeps well without sterilization. The only other precautions taken against sepsis are that the skin of the back is washed with 3 per cent. carbolic before the insertion of the needle, and the needle itself carefully wiped off. Operators are warned not to insert the needle near the middle line, and to alternate to right and left sides with each injection. Prof. Rosenbach, of Breslau, found the skin of the abdomen more convenient, some slight local pain having prevented some of his patients from sleeping on the back: but attention to the foregoing precautions seems to show

that the back is, after all, the most suitable place.

As to the results of the injection and the character of the reaction, little requires to be added to what Koch has already published. Individual peculiarities are being noted. It has, e.g., been observed that during the menstrual period a dose of 3 mg. produced a stronger reaction than one of 7 mg. before the period. The temperature must be taken every two hours on account of the rapid fluctuations, and the injection should be given in the morning, so as to insure that the more violent part of the reaction shall be over before night.

The loss of appetite, fatigue, dragging pains, rise of temperature, seem to be always characteristic of the reaction. In some (surgical) cases a rise of blood pressure has been observed, whereas in some less favorable cases the pulse became very weak, rendering necessary a stimulating injection. Various observers describe a scarlet fever-like or measles-like eruption as not uncommon.

Prof. Frantzel describes almost magical results as succeeding the disappearance of the reaction in cases of pulmonary tuberculosis. The fever and night-sweats disappear, the cough becomes easier, the appetite improves, the patients gain weight, and the bacilli are altered in character and then disappear from the sputum.

Koch, in his paper, dwells on the circumstance that it is the tuberculous tissue, and not the bacilli, which the lymph attacks. Frantzel, however, shows that the bacilli suffer a reduction in size, and become broken up into two or four beads. This change, which, however, is not generally accepted, would appear to indicate the beginning of processes destructive to the bacilli; but that it does not affect all is indicated by the circumstance that the tuberculous material after injection is still virulent. Nor is the disappearance of the bacilli from the sputum an indication that they have been entirely removed from the lung. Continued observation must show whether this is only a question of persevering with the remedy sufficiently long.

As you have already learned in Koch's original article, which was reprinted in the *Philadelphia Medical News*, much smaller doses are tolerated in general than in local tuberculosis, and even with the latter it is desirable to make

sure that the glands are not involved before beginning with the larger dose.

Most observers recommend beginning with the 1 mg. doses, except in the case of lupus and local joint diseases. If the reaction is established, the same dose ought to be repeated on the second day after the injection, after which it has been generally observed to be safe to increase the dose on alternate days by 1 mg. On the other hand, Grabower found that in a case of laryngeal tuberculosis uncomplicated by glandular disease, the larynx was rapidly cleared of the tuberculous ulcers under doses of 10 mg. rising to 30. But Frantzel and Krause recommend very careful dosing in laryngeal cases, so as to guard against undue swelling. So far, however, the result in laryngeal cases appears to have been in the direction of the diminution of the swelling, reduction of the amount of secretion, exfoliation of necrosed patches, and substitution of these for healthy granulating surfaces. Oppenheim even records a case of complete cure. The dangerous swelling and oedema which might have been anticipated from the local action in lupus, etc., has only been observed by Krause in one out of a large number of cases, so that the curative lymph may be regarded as having given unexpected favorable results in laryngeal tuberculosis.

Sufficient time has not elapsed to allow an opinion to be pronounced as to the effect of the injection in joint cases: but one good result, a greater freedom of movement after disappearance of the local reaction, would already appear to have been attained in several cases.

The only cases which I have observed of the application of the treatment to meningeal tuberculosis show that it is contra-indicated. That would also appear to be the case where there is advanced diffuse tuberculosis of the intestine, and here, Billroth says, ought to be exercised in such cases where there is any suspicion of such. The general reaction may be so profound as, in the Innsbruck case, to be attended with fatal results. One of the most interesting questions is the nature of the histological changes brought about by the injection of the lymph. Dr. Kromeyer, who investigated an excised portion of lupus-tissue subsequent to treatment, shows that the inflammatory process surrounding the tubercles gradually brings about infiltration, and



eventual suppuration. He supposes this to be due to new chemical products formed in the tubercle as the result of the injection, which irritate the surrounding tissue in such a way that future doses of the lymph reach the tuberculous tissue with greater difficulty, and therefore cause less disturbance. Further researches of this character will be looked forward to with interest.

Some interest attaches to reports coming from the sanatoria for tuberculosis, such as Gorborsdorf, where the most careful treatment of a hygienic and dietetic character, with plenty of fresh air, is afforded the patients. The reaction in these would appear to be attended by neither so high a temperature, nor by so many unpleasant symptoms as in the case of hospital patients: but improvement of the lungs and larynx has been observed in more favorable cases, and improved subjective symptoms in more advanced cases. The reports of the next two weeks will be looked forward to with interest, when by the gradual increase of the dose it shall have approximated to that which excites reaction in a normal individual.

The importance as a diagnostic, on which Koch laid so great stress, is being also dwelt upon by various physicians. It is thought it will be of especial service in those very early cases where there is chlorosis with subfebrile temperature, but where there is no sputum to confirm the suspicion. The reaction frequently discloses the presence of bacilli, and allows of the prompt adoption of the proper dietetic treatment. Arming thinks it will sharpen the whole conception of scrofula, permit the separation of syphilis of the lung from tubercle, and, as there is absolutely no reaction in leprosy, allow of the distinction of cases of phthisis leprosa. The vexed question as to the varieties of lupus is being revived with the aid of the new diagnostic, but it is by no means settled. While some dermatologists, like Lewin, claim the identity of *L. erythematodes* with *L. vulgaris*, others, like Neisser, have failed to observe a reaction in the former, and Lassar thinks that while there is a reaction in both, it is different in character. The statement that a case of rhino-scleroma reacted requires confirmation, and it is generally denied that there is any effect on sarcomata and carcinomata. Of course the inevitable rebound

has occurred from the over-sanguine expectations of the public (over-sanguine in spite of the very guarded way in which Koch announced his discovery). Croakers who now realize that the lymph is incapable of creating new lung tissue have begun to undervalue the remarkable discovery. I have on my table the first pessimistic pamphlet which has appeared on the subject, a warning to physicians and patients by a German physician. He thinks that the lymph may turn out to be chiefly of use where the knife can remove necrosed products; that in pulmonary consumption it must be used with the greatest care even as a diagnostic means, in case of throwing too much lung tissue out of function; that the remarkable power which the lymph has of disclosing latent tuberculosis is not an unmixed benefit: but he closes with the excellent advice that it should be reserved entirely for the clinics in the meantime, where the results can be scientifically and continuously observed, and that no more should be issued to private physicians. It has probably been recorded in the Toronto papers that the Austrian Government has already made regulations with this end in view, and that private physicians who use the lymph must report each injection and its results to the authorities.

I trust you may soon be in possession of the necessary material in Toronto for observing its undoubted remedial effects in suitable cases.

I subjoin some notes on the more scientific side of the subject, and on the allied question of the securing of immunity from and treatment of other infectious diseases. The whole subject of the biology of pathogenic bacteria is being attacked with feverish activity just now, and most important results are to be expected.

As to the nature of the fluid, which as yet has been disclosed to no one except Drs. Libbertz and Pfuhl, who are engaged in manufacturing it, there are, as it may be supposed, many conjectures. Buchner, of Munich, in discussing the subject, recalls the similar differential action exercised on lupus tissue by the Cosmi paste, and supposes that in case of both remedies the normal tissue cells are possessed of a sufficient power of resistance to withstand being thrown into an inflammatory condition, while the morbid cells are not, and therefore



enter on those changes which lead to their subsequent necrosis and replacement by new tissue. The sum of such local reaction is necessarily greater when the tuberculous tissue is widely distributed, and therefore the comparatively insignificant reaction when the affection is merely local. The circumstance that Koch's lymph is not rendered inactive by sterilization shows it is not a toxalbumin; these toxic bacterial albumins lose their activity at about 60° c. Nor does it belong to the ptomaines or toxins, which are rather of the nature of nerve poisons: but it is more probably the protein of the tubercle bacillus itself, which in infected tissues gives rise to those processes of irritation which lead to the epithelioid and giant cells and the tubercles, and which, introduced in greater quantity, originates the more profound changes which lead to the necrosis of the affected parts.

Buchner has published some interesting researches lately on the nature of the bacterial products which lead to inflammation and pus formation. He believes that it is not the metabolic products of the bacteria which are so active in this respect as the protein of which they are composed. He has shown that by isolating the protein of *bacillus pyocyaneus* and introducing it in capillary tubes under the skin of rabbits, that this protein has a remarkable attractive "chemotoxic" action on leucocytes, which flock towards and into the open end of the tube, and he explains the inflammatory process due to invasion of bacteria in this way. Gluten-casein also, a body allied to the proteins of bacteria, which is certainly harmless when introduced into the alimentary canal, has the same attraction for leucocytes when introduced below the skin.

Heinz sends from the Pharmacological Institute in Breslau a suggestion as to a drug capable of increasing phagocytosis, and possibly therefore of helping in the elimination of the tuberculous tissue necrosed under the Koch treatment. He found that cinnabar introduced into the body cavity of Guinea-pigs was transported very much more rapidly to the spleen in animals which had been treated with potassium iodide than in those which had not been so treated, and that this is due to the increased activity and number of leucocytes.

Like Buchner, Nencki and Sabli also call attention to the fact that the disturbance following the injection of the Koch lymph recalls that following the introduction of an enzyme or peptone-like body into the blood, and state that Hammerschlag had already succeeded in procuring from large masses of tubercle bacilli a toxic protein. They suggest that possibly in addition to the process of phagocytosis, the animal organism may possess another weapon against bacterial vegetation, viz., the formation of a local stream of active enzymes towards the invaded part.

That the blood-serum of immune animals possesses some such ingredient which is deleterious to the pathogenic bacteria to which they are immune, and also to the toxic products of these, seems to be thoroughly established by the recent work of Behring and Kitasato on immunity from tetanus and diphtheria.

Extremely interesting results have been arrived at by these gentlemen and by Prof. Frankel, of Königsberg. The latter believes that among the metabolic products of the *bacillus diphtherie* there are two albumins, one of which the toxalbumin, which is responsible for the pathogenic action of the bacillus, is destroyed at temperatures between 55° and 60° c., while another, which still exists unaltered in cultures heated to 65-70° c., confers immunity on animals into which it is introduced, both against virulent cultures of the bacillus, and against subcutaneous introduction of the pure toxalbumin. He demonstrates this by comparing the action of virulent cultures with those which have been filtered or heated up to 55° c. (and which, therefore, contain a mixture of two albumins), and with those which have been heated to 65-70° (in which, therefore, the toxalbumin has been rendered inactive). Frankel finds that cultures of the latter sort have no therapeutic value, *i. e.*, that when introduced into the body *after* a virulent culture, they do not interfere with the short course of the experimental diphtheria; in fact, the introduction of the immunity-conferring albumin would appear rather to reduce the power of resistance of the organism. Of course where the disease runs a longer course, it is quite possible that this method of combating the ravage of the bacillus would have a greater chance of success. Behring shows, in

addition to Frankel's results, that there are other ways of conferring immunity against diphtheria. The addition, *e. g.*, of iodine trichloride in  $\frac{1}{5}$  per cent. solution to cultures of four weeks old, for sixteen hours, attenuates them and makes them capable of conferring immunity against virulent cultures. Again, the fluid found in the cavity of a Guinea-pig which has died from experimental diphtheria, is to a certain degree toxic: but animals which recover from the injection of it prove to be immune.

Not only is iodine trichloride capable of attenuating the bacilli during cultivation outside the body, but it has a therapeutic value, for if 2 cc. of a 1 per cent. or 2 per cent. solution be injected in a Guinea-pig or rabbit, from one to six hours after infection with a virulent culture, the animals become sick, but do not die, and if the wound heals they prove to be immune.

Experiments with a view to ascertain whether iodine trichloride might be used therapeutically on children have given *negative results*. Dr. Behring is still searching for a medium which will counteract the morbid process in man.

If the iodine trichloride be introduced *before* infection, it produces no effect: but if hydrogen peroxide [in a slightly acid (sulphuric acid) 10 per cent. solution] be so introduced (the proper proportion to the body weight varies with different animals), the animals prove to be immune. This is a remarkable instance of immunity due to the introduction of a simple chemical substance: it does not stand alone, for Kitasato asserts that previous treatment with iodine trichloride renders rabbits immune to tetanus.

Although, so far, these experiments have only a scientific value, they show that animals which are naturally or artificially immune are so, not only against virulent cultures, but against the toxalbumins formed by these. That this property resides in the blood-serum of the immune animals, Behring concludes from the following experiments: Blood taken from rats (which are naturally immune to diphtheria), into which a considerable amount of the toxalbumin had been injected, produces no toxic effects in Guinea-pigs, while blood from non-immune animals, under similar circumstances, produces serious illness. Again, mice which have been treated with the blood of rabbits rendered immune to tetanus, are not only themselves immune to cultures in-

troduced before the treatment, but even mice which are already tetanised, and which would certainly die in a few hours, can be *cured* by the intra-abdominal injection of such blood.

The possibility of curing in this manner an acute infectious disease during its course is, therefore, placed beyond a doubt.

These experiments, which are being conducted on diphtheria, tetanus, and typhoid, have already advanced so far as to show that we are on the eve of great discoveries with regard to the treatment of other bacterial diseases besides tuberculosis.

It is quite possible that in another letter I may have to report to you further progress in this respect. I hope to familiarize myself in the Hygienic Institute here with the very difficult technique necessary for successful experimentation in immunity, as you have no doubt learned from my letter to the Vice-Chancellor. From all I can learn, this is a necessary preliminary stage to the chief object of my mission here.

I am, yours sincerely,

R. RAMSAY WRIGHT.

BERLIN, Dec. 15th, 1890.

DR. J. FERGUSON, *President Tor. Med. Soc.*:

DEAR SIR,—I am thoroughly at work in Berlin. On my arrival I was fortunate to meet Dr. Lennox Brown, who kindly introduced me to the following prominent investigators, *viz.*: Professors Krause, Frankel, Gerhardt, Hærtie, Webber, Cornet, and others—as a personal friend and former assistant.

I have lost no time in getting into harness; I spend from four to six hours daily in the wards of the Charité Hospital, and examine all Dr. Webber's (Dr. Koch's assistant) cases, and do microscopic work. Besides this, Dr. Webber selects one or two cases which he goes over thoroughly with me, giving the history, etc., and the changes which take place under treatment. I also attend Dr. Krause's throat clinic for a couple of hours a day.

The town is simply crazy over "Koch's method"; every thing is tuberculosis. The results so far have been satisfactory, but it is premature to speak dogmatically until time has confirmed the present favorable impression.

There is no doubt, however, that "Koch's method" is an important factor in the treatment

of some cases, and a valuable means of diagnosis in others.

The injections in most of the clinics are made at 10 a.m. At first all were made in the back, but now many are made in the side, because if, by an accident, an abscess forms at the injected point, the patient may lie on the back without any discomfort. Koch's syringe is not universally used. Some prefer those made of asbestos. The reaction generally comes on in about eight hours, accompanied by a rise of temperature to about 101-103, general malaise, headaches, sometimes chills and vomiting. In pulmonary tuberculosis the cough and sputum are apt to be increased for a time, and more bacilli may be found.

The lymph causes inflammation and necrotic changes, and in some portions of the body, such as the knee-joint, the necrosed tissues may be absorbed. There are grave dangers connected with its use. There is especial danger in laryngeal cases, and in such it is well to be prepared for tracheotomy or intubation, on account of the swelling, which may cause stenosis. Most of the investigators agree that the lymph is useful for the purposes of diagnosis, especially in latent cases, whether old and quiescent, or incipient. The dose given at first is one milligram, which is gradually increased to a centigram, and finally to a decigram, which is called the "healing dose." The injections are made, as a rule, at intervals of two or three days. In all cases the symptoms arising from the previous injection must have subsided before a fresh one is made.

At an early date I hope to be able to give the society fuller information relating to this most important discovery of Koch. I have the honor to be, your obedient servant.

JAMES B. THORBURN.

Berlin, Dec. 12th, 1890.

## Births, Marriages, and Deaths.

### BIRTHS

GORDON. —At 646 Spadina Ave., on Sunday morning, Dec. 21st, the wife of Dr. Gilbert Gordon, of a daughter.

ARTHUR. —At Algoma Mills, on Dec. 18th, 1890, the wife of Dr. R. H. Arthur, of a son.

### MARRIAGES.

JEFFS-BROWN.—On Christmas Day, W. H. Jeffs, M.D., Havelock, Ont., to Minnie, daughter of the late Thomas Brown, of Brown Bros.

GREENE-LINCOLN.—On Dec. 22nd, 1890, at Baltimore, Maryland, U.S., Dr. Eardley Herbert Greene, of Toronto, to Elsie, daughter of Wm. Lincoln, Esq., of Baltimore.

McFAUL-CARBERRY.—At Erin, on 17th Dec., Dr. A. M. McFaul, of Stayner, to Mary E., second daughter of Captain Carbery.

McSPADDEN-McBRIEN.—On Thursday, December 11th, 1890, Toronto, Capt. McSpadden, 12th Batt. Y.R., to Minnie, only daughter of the late A. N. McBrien, M.D., Newtonville, Ont., and niece of H. T. McBrien, M.D., Toronto, late of Oshawa.

BURWASH-CRANSTON.—At Arnprior, on the 10th December, 1890, Armon Burwash to Harriet Elizabeth Cranston, eldest daughter of Jas. G. Cranston, Esq., M.D., all of Arnprior.

### DEATHS.

EMES.—On Tuesday, Dec. 16th, Annie A. McLellan, aged 38 years, wife of Dr. S. P. Emes, 41 Gwynne avenue, Toronto, formerly of Drayton.

SAVAGE.—At Weston, on Friday, Dec. 26th, 1890, at 12 p.m., Thomas Young Savage, M.D., aged 58 years.

GORDON.—At 646 Spadina Ave., on Sunday morning, Dec. 21st, the infant daughter of Dr. Gilbert and Minnie Gordon.

## Miscellaneous.

The newly formed chair of Materia Medica and Therapeutics at Michigan University is filled by the election of Dr. John J. Abel as Lecturer for one year. Dr. Herdman has been made Professor of Nervous Diseases and Electro-Therapeutics, resigning his former position of Demonstrator of Anatomy.

CORRECTION.—In a former issue we stated that Drs. Geo. Ross and R. L. MacDonnell, of Montreal, had gone to Berlin. We understand that it is not correct; but that Drs. G. T. Ross and McConnell, of Bishop's College, have gone to Berlin to study Koch's methods.

THE

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## Original Communications.

### KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT.

Communicated from Berlin to the University of Toronto.

[FIRST COMMUNICATION.]

Since my last letter, the only new contributions of any importance to the Koch literature are contained in the *Deutsche Medicinische Wochenschrift*, published to-day. I give you the following sketch of the contents as far as they differ from my previous summary, and include a chart, such as is being used to record cases.

Prof. Frankel, of the City Hospital, *Am Urban*, whose selected cases are chiefly incipient pulmonary tuberculosis, lays great stress upon numerical examination of the bacilli in controlling the progress of the cases. [He uses Gabbett's method, but considers that the concentrating method of Biedert is the only method that can be depended upon to show the absence of bacilli.]

He urges gradual increase of dose, and cites a case where, there having been no reaction to 1 mg. or 3 mg., a dose of 5 mg. produced alarming dyspnoea.\* He observes that where the pulse in the reaction is from 80 to 100, the patient generally stands increased doses well; but if it has risen to 120, great care is required. Similarly, if the respiration reached 40, it may

be desirable rather to reduce the dose. He proposes to stop with his phthisical patients when he has reached 100 mg. Of thirty-one cases, nine showed the typical reaction, seventeen merely indicated it, while it was absent in five. He considers this due to the idiosyncrasy already known in other toxic agents; it is not due to the absence of the disease. Like other observers, he has occasionally observed albuminuria and icterus: at first the sputa is considerably increased in amount, and the bacilli no longer singly, but in heaps of some ten to twenty. While he does not think that the beaded forms, described by Fraentzel, and of which I spoke in my last letter, are due to the injection, [I have just seen a beautiful preparation in Professor Ewald's clinic of these forms from a case *before* injection], he is of opinion that the bacilli do not stain so intensely as before. The bacilli are also increased in other excretions. An interesting case of otitis media is cited, where the pus contained very few bacilli; it increased in amount and in the number of bacilli enormously under the treatment, but eventually they disappeared, and a perforation in the tympanic membrane now shows healing granulations. From a report of Lenhartz, of Leipsic, I extract only two cases which seem to be of special value: one was a case in which the diagnosis was doubtful between lupus hypertrophicus and tertiary syphilis. The patient, whose forehead was much infiltrated, is now able to wrinkle it, which was formerly impossible. A case of Addison's disease gave a violent re-

\*Another case is cited of a young man with the remains of pleurisy, but no sputum, where there was no reaction till 100 mg. was given, when suddenly a violent reaction, accompanied by expectoration containing numerous bacilli, occurred.



action in fifteen hours. There was no pulmonary disease, and the prognosis was bad; after the eighth injection of 5 mg. the patient did not react, and the outlook is now much more favorable. It was probably one of those caseo-fibrous degenerations of the supra-renals of tubercular origin. Lenhartz considers the new medium to be not only diagnostic but curative.

Professor Czerny records, from Heidelberg, some favorably progressing (although, so far, not healed) cases from his surgical clinic. He lays special stress on the diagnostic value in surgical cases, especially in spondylitis, where the local reaction indicates the spot for surgical interference. He concludes by remarking that if the lymph only turns out to be curative for incipient pulmonary tuberculosis and lupus, it will, nevertheless, be one of the most important therapeutical discoveries. He urges that its nature should be disclosed as soon as possible, not only on account of the discomfort which every physician must experience in using a secret remedy, but because the methods which led to its discovery, when made known, may lead all the sooner to the discovery of specifics for the treatment of the other infectious diseases.

Professor Stiller, of Buda-Pesth, on the other hand, approves of Koch keeping his secret with regard to the lymph, but thinks the animal experiments ought to be described as soon as possible. He finds the local reaction in the lungs indicated by increased rales and the breaking up of the tubercular tissue in the altered character and constituents of the sputum. He reports the unexpected result of a violent general reaction in a case of chalazion (a swelling of a meibomian duct, recently shown by Tangl to be of bacillar origin).

Professor Ebstein, of Gottingen, uses a Parvaz syringe, and finds no local difficulty when the injection is made below the scapulæ. None of his cases were in the earliest stage; he excluded cases of intestinal and peritoneal tuberculosis and pregnant tuberculous patients, fearing perforation in the former and the results of injection on the fœtus in the latter. While he does not speak of any complete cures, yet the general impression he has formed is favorable; and he makes no doubt that the lymph is able to seek out and to kill the tuberculous tissue wherever it is situated in the body.

Professor Lindner, of the Augusta Hospital, whose surgical clinic I visited yesterday, speaks very favorably as to the effect of the remedy in surgical cases. Various fistula, e.g., which had proved refractory, have closed under the treatment. He observes, however, that it is necessary to speak with caution about tubercular ulcers, on account of their well-known tendency to heal up and break out again.

I have nothing further to report as to the more scientific aspect of the case, but hope to have some further news for next mail. Although I hear some unfavorable comments on the remedy, these have not as yet found their way into the Berlin medical press; I daresay you will have access to them elsewhere. A second anti-Koch pamphlet, which I have got hold of, is from a Wiesbaden physician, who relegates the pathology of lupus and pulmonary tuberculosis to the cervical cord; so his polemic will not interest you.

[SECOND COMMUNICATION.]

You will be interested to have in continuation of my last letter a summary of the opinions expressed by Prof. Leyden on the results obtained by him in the Charité Hospital with Koch's lymph. Leyden has always appeared a little less sanguine than some of his colleagues, and his lecture reported in yesterday's *Klinische Wochenschrift* is therefore all the more interesting. He cautiously begins by refusing to pronounce, after only four weeks' trial, a definite opinion; but says it is the physician's duty to act upon the Hippocratic motto, "Neither to adopt nor to reject a new remedy without careful investigation."

In speaking of the general reaction, he is inclined to think that some non-tuberculous cases react, and that it is extremely difficult to allow properly for the psychical influence of the injection. The expectant condition into which the patient is thrown must have a varying influence, according to temperament and health, on his subjective sensations. On the other hand, some cases not supposed to be tuberculous and treated simply as control-experiments disclosed, after injection, symptoms of latent tuberculosis.

Leyden lays especial stress on the condition of the pulse during the reaction; it increases very much in frequency and becomes much

weaker, but the curve of frequency is by no means parallel to the curve of temperature. He considers that the cases of sudden death recorded may be attributed to heart-failure. The respiration is also generally more frequent, and may be dyspnoeic; gastric symptoms which have been observed may be possibly due to local tubercular foci. There is increased metabolism or rather katabolism, as indicated by the urine and by loss of weight (one patient lost two pounds in forty-eight hours); and if the favorable effect on the local pathological change were not so great as to lead to a rapid recovery from this symptom, he considers it would hardly be justifiable to subject the patient to the trying reaction.

Another discouraging feature as to the treatment is our ignorance of what happens to the bacilli when the surgical removal of the necrosed tissue in which they are contained is impossible. Again, doubt still exists as to whether a violent reaction always indicates extensive tuberculous process, and whether a diminished reaction is always to be interpreted favorably.

As far as the therapeutic value of the treatment is concerned, he thinks that the prospects are excellent for lupus and tubercular laryngitis, but it is too soon to pronounce any opinion with regard to pulmonary tuberculosis. Even with the hitherto current methods of treatment of early cases, resulting in apparent cure, the physician would hesitate to pronounce a case secure against relapse. There has, so far, been no time to compare the results attainable in such cases by the use of Koch's lymph with those of other methods of treatment, which, like those of Dettweiler, of Falkenstein (who has cured one-third of the cases arriving sufficiently soon), are often very favorable.

Professor Leyden concludes by hoping that Koch has discovered a specific which will greatly increase the number of cures, but he warns against neglecting the other remedial agents which the progress of medical science has put in the hands of the physician.

In the same number are also reports by Burkart, of Bonn, and Hofmeier, of Berlin. Two cases are cited by the former which corroborate the doubt expressed by Leyden as to the intensity of the reaction being a trustworthy indication of the extent of the tubercular process. One

patient with abundant sputum, infiltration of both apices, but no fever, did not react till a dose of 30 mg. was reached, when there was a violent reaction; while a second case, with mitral insufficiency following rheumatic arthritis, slight cough with scanty sputum, in which no bacilli were at any time detected (although the scar of an excised gland in the neck indicated strumous diathesis), reacted violently to 1 mg., and indeed to each following dose of 1 mg. This patient lost four pounds during the treatment, but her cough improved.

Hofmeier considers it quite judicious to treat pregnant patients with the lymph before the end of the sixth month. In two such cases the results were favorable. The interesting fact is recorded that the foetal pulse was accelerated on the day following the reaction.

With the approach of the Christmas holidays, the stream of strangers to Berlin has considerably diminished; but reports as to the use of the lymph, from the most distinguished authorities, continue to appear. I hope in another letter to be able to write something as to the progress of the cases in the pavilions in the City Moabit Hospital, which have been placed at Koch's disposal.

## KOCH'S TREATMENT OF TUBERCULOSIS.

BY JAMES D. THORBURN, M.B., L.R.C.P.,  
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Communicated from Berlin to the Medical Society of the  
University of Toronto.

*Reaction following administration of Koch's fluid may, for convenience, be divided into*

- (a) *General*, as shown by rise of temperature; increased frequency of respiratory action; increase in pulse rate and character; rigors, chills; nausea, vomiting; headache, delirium; general prostration.
- (b) *Local*, as shown by a swelling and redness of diseased parts; pain, and local heat; rapid formation and casting off of necrotic masses.

These reactions, one and all, occur in every case, in a more or less marked degree, in which there is either a latent or active tubercular pro-

cess, and are always more marked in women and children, especially when suffering in a marked degree from tuberculosis of the lungs.

All induced changes disappear in from one to two weeks.

#### ACTION OF "KOCH'S FLUID,"

"Antituberclin," as it is now called, upon

*Mouth and soft palate and uvula:* Sometimes produces a herpes.

*Stomach:* Deranges digestion; causes nausea and vomiting; loss of appetite; severe pain.

*Intestines:* Diarrhœa, followed by constipation; diarrhœa is probably owing to the large sloughs which are cast off ulcerating surfaces. Pains—*(a)* Neuralgic in type, where ulcerations already exist. *(b)* Dull aching, where disease is latent; tenderness on pressure not marked; tympanites not noticed as yet; jaundice in some cases.

*Spleen:* General enlargement, more especially in transverse diameter; no tenderness; changes in spleen seem to be influenced by condition of lung.

*Liver:* Slightly enlarged, and correspondingly tender upon pressure; surface smooth.

*Kidney:* Transient albuminuria, more especially in pregnant women; an increase in amount of albumen, where there has already been some, before injection.

*Heart:* DECIDED action upon the force and frequency of the beats causes palpitation; pulse dicrotic, soft. Should be used with caution in all cases complicated with heart disease, although to date no accidents have followed the administration in these cases, eight in number; a sense of anxiety; deaths in early cases probably owing to action of antituberclin on heart; the action on the heart does not correspond to the height of the temperature.

*Eyes:* No reaction except in a case of tubercle conjunctivitis, when the reaction was marked.

*Nose, Throat.* { *Pharynx.* } Changes here are  
                          { *Larynx.* } remarkable, and follow, as a rule, within twenty-four hours of injection, preceded or not by a more or less intense general reaction.

**LOCAL CHANGES.**—The diseased tissue becomes swollen and red; in a short time this is covered with a gray-white exudation, appearing first in the centre of diseased mass and then rapidly extending to periphery; next it takes on

an ulcerative process, beginning and spreading in the track of the discoloration; ulcer becomes flat and funnel-shaped; afterwards the diseased parts shrivel up; the discharge of mucus from mouth and nose is greatly increased during this reaction. Virchow says, "The process of formation and destruction of the tubercle is so hastened by the treatment that the subject gets rid of all before fresh ones can form." Frequently an eruption appears upon the soft palate, uvula, and tonsils, this may be either herpetic or tubercular in origin; in other cases where the reaction is not so violent we only find a general catarrh of these parts, voice being hoarse, mucous membrane red and inflamed, secretion increased; where process is very severe, patients frequently suffer from great "dysphagia" or a dull pain referred to seat of ulceration.

*Lungs:* Feeling of oppression, and in some cases actual pain. The changes in the lungs after injection are astounding: lung tissue, after very careful examination pronounced healthy before the injection, within from six to ten hours following it will present some of the following changes:

*(a)* Pneumonic patches of various sizes, from quite a small island to an area larger than a hand.

These pneumonic patches, probably tubercular, exhibit the following peculiar clinical picture: *(a)* No chill or rigor preceding the local changes; *(b)* No pain before or after consolidation except in a few cases; and in these the pain was not severe, and not influenced by breathing; *(c)* Is not accompanied by dyspnoea.

The area of dulness increasing and decreasing one or twice in twenty-four hours. Upon auscultation, one hears a number of large moist rales, simulating more the rales heard in œdema of the lungs; although not exactly alike, still could be mistaken for them. I have not heard true crepitation in any case. These rales are influenced to a certain extent by coughing, or upon patient breathing deeply. They do not change in character from beginning to end of induced change. Bronchial breathing is frequently absent, although dulness exists, as well as other signs of consolidation. Normal respiratory sounds in some cases are marked by numerous large rales, and even gurgles; these change from time to time during the examination



of patient. Cavities fill and empty with remarkable rapidity.

Local reaction in lungs may be influenced by

(a) Fibroid diseases of lung.

(b) Encapsuled tubercle.

(c) Certain idiosyncrasies.

*Pleuræ.* Two cases under observation have developed pleurisy after injection; soft pleuritic crepitation were heard in numbers, but no effusion followed; again in these cases pain was wanting. The induced changes in the lungs and pleuræ disappear in from one to two weeks, leaving no trace behind; while the pre-existing active lung changes are found to be improved to a greater or less extent.

While the induced changes are present the injections following, up to a certain time, increase the local reaction. In from one to two weeks all the induced changes disappear, and the portions of lung known to be diseased before the injection seem to be greatly improved, as shown by the physical signs.

EXCEPTION.—When induced changes have gone on to cavity formation, after it is empty it seems to shrink up and become obliterated.

*Cough.* At first increased and then lessened, finally ceasing in favorable cases.

*Sputum.* At first increased in amount, afterwards disappearing; in the beginning more mucopurulent, then frothy, and consisting chiefly of mucus. After standing twenty-four hours, the clear underlayer contains a large quantity of carbonate.

*Bacilli.* At first greatly increased in numbers and were thought, until yesterday, to show certain changes in form, e.g.; (a) smaller in size; (b) granular appearance; (c) curved.

These changes, however, have been discovered in bacilli obtained from patients who were not treated by Koch's method.

After a while they decrease in numbers, and in some cases cannot be found at all.

*Urine.* The ordinary fever urine, *vide* kidneys.

*Blood.* No changes so far discovered in shape of discs; but a very rapid "leucocytosis" is produced, in which the leucocytes increase greatly in number, while the lymphocytes remain about the same as in normal blood. Further investigation required.

*Nervous System.* Intense headache (frontal), and pains, neuralgic, at back of eyes; a feeling

in the extremities as if they were paralyzed. Small doses promote sleep in a few, while larger, or in cases where reaction is great, prevent sleep; herpetic eruption on face; tendoreflexes increased; vertigo; noises in ears and head; general nervous prostration: (a) delirium or (b) partial delirium; (c) low muttering; in character, not active.

*Temperature.* Is of a hectic type, coming on from three to thirty-six hours after injection, gradual rise terminating by lysis: sometimes normal the following day, and then re-occurring on the second. Sometimes lasting forty-eight hours. Difference between morning and evening from one to four degrees.

The following circumstances seem to influence the rise and fall: (a) Time of receiving injection, which should be done about the time of beginning normal rise, e.g., 10 a.m.; (b) patients free of pre-existing fever; induced temperature does not rise to any great height; (c) greater if there be much local reaction; (d) according to the nervous state of patient; (e) age; greater in extremes of life. Not influenced by the dose (amount of) or gravity of disease.

*Respiration.* In many cases, *urgent dyspnœa*; always some increase in number. This increase in number always precedes rise of temperature. Although dyspnœa may be very great, patients lie on their backs; do not sit up; breathing fairly deep; inspiration and expiration occupying about same time. Cause of dyspnœa is as yet unknown, and does not seem to be influenced by temperature or severity of disease.

*Skin.* Three rashes; (a) Like measles, only deeper in color; not itchy; (b) Like scarlet fever; not itchy; (c) A simple erythema, at times accompanied with a pricking sensation. (a and b) Spread over the whole body; (c) More localized around affected joints, or over affected lungs, etc. (a, b and c) Last a few days.

In one case a simple desquamation, not preceded by a rash.

In a *post-mortem* examination yesterday, I noticed the following changes in the lungs of a woman who had received injections, but whose condition before treatment was so alarming that no hope of recovery was entertained by Prof. Krause, under whose care she was. Numerous cavities were found in both lungs, these cavities being filled with pus, and broken



down tubercles and lung tissue; the walls of the cavities were intensely congested and œdematous, glazed on the surface; the tubes filled with a muco-purulent secretion. These changes have been found in all cases, where examination has been made, in patients treated by antituberculin.

*Affected Glands:* After injection become swollen, semi-elastic, and in some cases painful.

*Diseased Joints:* Become swollen, red, hot, painful; at first movement is restricted, later freer; effusion in some cases seems to be partially absorbed, a cheesy mass resulting; in others large sloughs are cast off in the joints, and these are removed by subsequent operation.

*Peritonitis:* I have not seen any cases as yet.

*Night Sweats:* Do not seem to influence them to any great extent. In 50 per cent. they cease; so I am told, but have not seen it.

*Body Weight:* Loss of weight up to the healing injection, which is said to be 0.1; then a rapid increase.

The loss in weight is greater in cases where the remedy has been pushed too quickly; a few patients gain in weight from the beginning.

*Case 1:* Jacob Spanier, woodcarver, æt. 26. Admitted into the Charité Hospital, Nov. 12th, 1890.

*Family History:* No family history of phthisis; father alive and healthy; mother died of fever, following confinement; two young brothers dead, cause unknown; one brother, æt. 29, living and enjoys good health.

*Previous Personal History:* Suffered from dyspepsia since a youth; enteric fever, 1880-1; malaria, 1883; past three years has had attacks of diarrhœa with intervening constipation; while in the army (1887) contracted bronchitis, and since then has had cough, with expectoration and pains in the left chest. In January, 1888, had a severe attack of hæmoptysis, lasting, off and on, for six weeks; this was followed by a feeling of oppression on chest; night sweats and dyspnœa increased upon exertion. This condition lasted until date of dismissal.

1889. Cough less, sputum diminished in quantity.

1890. Cough, sputum, and pains in chest greatly increased, and now patient cannot lie on left side.

*Former Treatment:* 1887. For a year underwent the milk treatment without benefit.

1st Oct., 1890. Was treated as an in-patient in the Urban Hospital for consumption. Was sent home from there to die.

Nov., 1890. Entered Moabil Hospital, where he was only kept a short time; finding himself worse, he left.

Entered the Charité, Nov. 12th, 1890. Status on that date: Middle-sized man; anæmic; bones and muscles well developed; skin dry and harsh, but elastic; pains in sup. scap.; inf. and sup. clavic fossæ, left side; pulse soft and irregular; spleen normal; appetite good; thirst increased; sleeps on right side.

*Lungs:* Right side—Vesicular breathing; Left side—Apex antrly. contracted one inch; impaired resonance to the third rib; vesicular bronchial breathing over this area; posteriorly, left side, dulness to middle of scap. region; consolidation of lung in this region; cavity in left inf. clavic space.

*Heart:* Heart pulsations diffused.

*Vital Cap.* 2300 cc.

*Bacilli.* In very large numbers.

*Before Injection:* Patient was observed for eight days before injections, and during that time his temperature rose only once to 38.2; usually had a low night temperature; respirations were from 20 to 30; night sweats; weight 56 lbs.

Nov. 20th, 10 a.m. First 0.002 injection; temperature eight hours after, 38.3; normal next morning.

Nov. 22nd, 10 a.m. Second 0.005 injection; temperature eight hours after, 38.4; sub-normal next morning.

Nov. 23rd, 10 a.m., 0.005; temperature eight hours after, 38.8; lung changes; *cavity full*; sputum, *increased* from 40 cc. to 60 cc.; liver and *spleen normal*.

*Larynx:* Which before injection presented no abnormal signs, left vocal cord not so wide as right, had now taken on the following condition: On the evening of the second injection there was a distinct swelling in the inter-aryt. space; on inner side of left aryt. body, a greyish-white exudation; from the right vocal process a small nodule protrudes.

*Vital Cap.:* On the 27th, after third injection 2400 cc.; no marked reaction of lung up to 27th.

Dec. 1st. After five injections a general catarrh of the larynx; bronchial breathing over left lung was very evident, accompanied by a very few rales.

Right apex: occasional rales; harsh; bronchial vesic. breathing. We see that a reaction had set in in the right lung, which, before injection was considered to be healthy.

Dec. 2nd. Injection 0.020; no reaction of temperature.

*Urine*: Sp. gr. 1017; traces of albumen, and upon standing some hours gave a fever deposit; since that time there has been no trace of albumen.

Dec. 10. Bacilli are greatly diminished in number and appear under the microscope to be curved, smaller than usual, and slightly granular.

*Vital Cap.*: 2650; no night sweats; feels better; all pain is gone, and patient can now sleep on either side; cough less; *sputum* increased in quantity, but is now like frothy water; after injections has always complained of severe frontal headache, worse at night; pain in the limbs and throat.

*Larynx*: Is now normal in appearance; the exudation and nodule have disappeared.

Dec. 13th. Last two days feels very weak; appetite gone; temperature higher; great oppression over chest; says he is becoming weaker every day.

*Present Condition*: Dec. 13th. Pale, anæmic man; lying on back: fairly well-developed chest and muscles; skin dry and semi-elastic over body, while on the face it is oily; myotatic irritability not very marked; fingers slightly clubbed, blue at tips; no sinking-in of either sup. or inf. clavic regions; heart pulsations to be seen in third, fourth, and fifth interspaces.

*Lungs*: Right side antrly.: expansion fair; no shrinking in of soft parts; vocal fremitus slightly increased; percussion; impaired respiration in sup. and inf. clavic fossæ as far as the second rib.

Respiration: bronchial vesicular, as far as second interspace.

Auscultation: a few fine rales in inf. clavic region.

Left side antrly.: Expansion poor; flattening in inf. and sup. clavic fossæ; vocal fremitus normal; percussion; dulness in sup. clavic and inf. clavic spaces to the third rib, except at one spot in the first interspace; a cracked-pot tone

is present; from the fifth rib to the base the note is impaired, and at points almost dull.

Auscultation: Sup. clavic bronchial breathing; a few large rales, numerous finer ones. Inf. clavic cavernous breathing, whispering pectq. gurgles, and behind third rib fine crepitus. In fifth interspace, a very few fine crepitus (distant), breath sounds very faint, and slightly blowing in character.

Posteriorly, right side: Impaired respiration to spine of scap; breathing bronchial vesic.; no adventitious sounds except in extreme base; a number of small bubbles with inspiration and expiration.

Posteriorly, left side: Left apex one inch lower than right. Percussion: dulness extending to angle of scap.; a few fine scattered creps. over this area, and at a spot (sup. spin. foss.) the ordinary signs of a secreting cavity. Base: a few fine bubbles.

Dec. 13th. Sputum 40 cc.: no bacilli were found.

Dec. 15th. Sputum 30 cc.; bacilli were found in large numbers; injection of 0.070; patient complains of very dry cough.

Dec. 16th. Temperature normal; cough better; sputum 30 cc.; feels much better.

Dec. 17th. Injection 0.080; temperature 38.4; *vital cap.* 2300; sputum 66 cc.; has a few night sweats.

### THREE CASES OF TUBERCULAR PERITONITIS OPERATED ON BY ABDOMINAL SECTION DURING THE YEAR.\*

BY J. F. W. ROSS, M.D., C.M., L.R.C.P. LOND.,

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the Hospital of St. John the Divine.

CASE 1. was a woman, æt. 36. III. para. Unwell nine months before seen: previously regular. Had cough and shortness of breath. No lung consolidation could be detected, though many moist rales to be heard. Abdomen much enlarged, with a muffled resonance obtained irregularly over the front of the abdomen, and an indistinct "far away" fluctuation. Diagnosis of thickened peritoneum was made—perhaps malignant, perhaps tubercular. Temperature ranged 99° to 100°. Pulse from 80 to 90.

\*Abstract of a paper read before the Toronto Medical Society. Published in the *Buffalo Medical and Surgical Journal*.

Operation: The peritoneum was found about  $\frac{3}{4}$  in. thick and studded with tubercular nodules. The hard mass felt before operation proved to be omentum, much thickened, and adherent in a conglomerate mass to abdominal parietes above and to the right of the navel. Bowels were glued together by adhesions, and pressed back into either loin by the fluid found free in the cavity of the peritoneum. Ovaries, tubes, and uterus normal. Abdomen was washed out and glass drainage tube inserted. Patient did well; wound healed; stitches removed on the seventh day. Rubber drainage tube used after removal of glass one. Cough then became more troublesome, and in a few weeks tubular breathing and other signs of lung solidification were noticed. Sputum changed in character; became like sputum of phthisis. Temperature remained elevated. An offensive diarrhoea came on and continued at irregular intervals until she went home. Heard that she died from the lung trouble three months later.

CASE 2. Young girl æt. 16, only unwell three times in her life; now suffers amenorrhœa. Looked thin and emaciated and very ill, just like a patient in the third week of typhoid fever. Temperature 101; pulse 110. About four months before she noticed her abdomen enlarging; then seemed to diminish by treatment, and then increased again. Uterine fundus not to be felt; cervix very small: no ovaries to be felt; sound passed by very short distance; abdomen found very much enlarged; no definite tumor to be outlined, but here had again muffled irregular resonance and a "far away" wave of fluctuation. Father's sister died of tuberculosis. Bowels move two or three times daily; tongue is very much coated at its posterior part, and red at tip and edges. A positive diagnosis of tubercular peritonitis was made, being guided to this conclusion by the recent case (No. 1). On opening abdomen, found peritoneum much thickened, of an œdematous, translucent appearance, and studded with tubercular nodules, looking like little teats. Large quantity of fluid free in the peritoneal cavity; intestines matted together and pressed back into each loin. Strange to say, no broad ligament could be found, and no fundus uteri, ovaries, or tubes. The pelvic peritoneum had no folds, but simply ended in a blind *cul-de-sac*. After treatment and

result of operation same as No. 1, except that patient left for home feeling well. Recent information shows probable tendency to reaccumulation of fluid, but no other symptoms. Patient remains hearty (Nov. 27, 1890).

CASE 3. Woman, æt. 32. III. para. Menorrhagia since last winter; no excessive pains; always able to go about; skin, coppery tinge; chief pain referred to neck of bladder; micturates very frequently; no chest symptoms; urine shows pus, mucus, few red blood corpuscles, squamous epithelium, and crystals of oxalate of lime. Has had fever and chills, with subsequent perspirations. On examination find two fluctuating tumors on each side of uterus, and diagnose double pyosalpinx.

At operation, peritoneum, both parietal and visceral, found studded with tubercles—not large, but very numerous; peritoneum not much thickened; no free fluid; intestines reddened and adherent to one another. On separating some coils, found double pyosalpinx. Drew out a coil of intestine to demonstrate the tubercle spots to the student present. After treatment and result of operation as in previous cases, except that the bladder symptoms continued, and the patient went home with a knowledge of the true nature of her puzzling case. No doubt there was tubercular ulceration of the bladder and tubercular deposits in the supra-renal capsules, causing the bronzing of the skin. Another case, strangely enough, was operated on but half an hour before No. 1, a case of sub-acute peritonitis, produced by a small suppurating ovarian tumor on one side, and suppurating hæmatocele on the other. In this case the peritoneum presented all the appearance of that of tubercular peritonitis. In summarizing these cases, the facts may be noted as follows: All looked very ill, the temperature in each case was elevated; abdominal pains in two cases, pelvic pains in one; in two, had amenorrhœa; in one, menorrhagia; in one, want of development of internal genital organs; in one, disease of Fallopian tubes; and in one, no change in these organs; in two, a collection of fluid; in one, the dry adhesive form of the disease. Ages varied—16, 32, 36 years. Two were multiparous women; one, a single girl; in one, enlargement was noticed only two months; in one, three or four months; in the last case the disease had been in progress



about two years. The omentum was much thickened in one, but little thickened in one, and not thickened in one. Peritoneum was thickened in two cases and not thickened in one. As regards diagnosis: the fact must be emphasized that the main points were the irregular tympanitic sounds on percussion; the presence of free fluid in the abdomen, shown by the flattening of the front of the abdomen and bulging of the loins upon tension of the recti; the muffled sounds of resonance; the "far away" wave of fluctuation, giving one the idea of the presence of a thickened peritoneum between the fluid and the fingers; the high temperature, coated tongue, cachectic appearance. Of course, malignant disease of the peritoneum will produce just such symptoms. In cases where there is no collection of fluid and no thickening of the peritoneum, a diagnosis is not possible without an exploratory incision, as in Case 3.

As to treatment: Drainage was not at all necessary; a cure could be effected or life prolonged by removal of fluid, and that removal should be effected by exploratory incision, and not by dangerous trocar puncture—such incision clearing up the diagnosis, as well as relieving the patient. With the knife and the finger, the operator knows where he is going and what he finds. If pleuritic effusion, so often tubercular, can be cured by removal of the fluid, there is no reason why the same should not hold good in the abdomen.

## Selections.

### SEQUEL TO A CASE OF OVARIOTOMY.

BY WILLIAM TAYLOR, M.D., F.R.C.P.E.

#### PATHOLOGICAL REPORT.

BY WILLIAM RUSSELL, M.D., F.R.C.P.E.,  
Pathologist to the Royal Infirmary, Edinburgh.

Ten years ago I was walking towards the west end of Queen Street in company with a medical friend. He was discoursing with all the fervor of an enthusiast on a recent series of successful ovariectomies performed by him. He informed me that in several of these cases he had made use of a double silk ligature, by means of which he strangulated the pedicle.

He then severed it, and, removing the ovary, allowed the ligature portion to drop back into its place in the abdomen. In my innocence I inquired what became of the ligature? His reply was—"God knows. It never gives me any trouble."

This answer startled me. It was not satisfactory to my old-fashioned mind. I was haunted with the idea of these ligatures remaining in the abdomen, where they might become centres of mischievous irritation, and I naturally desired to become possessed of the knowledge which the ovariectomist contemned. The career of the ligature, after its primary object was accomplished, although involved in obscurity, seemed a legitimate subject of inquiry, and I kept on searching for more light. In this quest the rays of reason alone were insufficient until blended with those of observation and pathology, and time was required to gather them into a focus. Meantime the ever-recurring question, What became of the ligature? presented itself in varying phases, of which the following may serve as examples:—

1st. Did the ligature drop away through an avenue of pus after its term of usefulness had expired, in the same way as the ligature used in the deligation of an artery finds its way to the surface?

2nd. If so, what became of the pus so imprisoned and the ligature so liberated in the abdomen?

3rd. Did the ligature remain *in situ*, entailing months or years of detriment undefined and undefinable, but such as must always attend the presence of a foreign body within the tissues of the body—the presence of matter in a wrong place?

4th. Did the ligature and its attendant products of pus and other disintegrated matter undergo solution, digestion, and absorption into the system?

5th. If so, the pabulum would seem to be most unsuitable; but even if unsuitable, what became of the effete residuum which is attendant upon all processes of digestion? Did it also enter the circulation in a state of decomposition but non-assimilation, and was it carried onwards mechanically by the blood-current until it became deposited in some nook or eddy of lung or liver or kidney, where it set up business on



its own account, and proceeded to disseminate and propagate amongst the surrounding tissues?

Whilst these problems were floating in my mind, I was consulted by a patient from England who had suffered for three years from menorrhagia. I treated her for two periods, but failed to stem the periodic flood. I consulted my friend the ovariologist. After reviewing the treatment and its results, he at once recommended deligation of both ovaries as the only treatment likely to succeed.

This was agreed to. The operation was performed. Both ovaries were healthy; both were removed, and the ligature pedicles were dropped back into the abdomen. The patient recovered from the operation. Nine years have since elapsed; no return of the menorrhagia has occurred, but she is still an invalid. She has never resumed work. Her intended marriage was broken off in consequence of the mutilation she had undergone, and thus possibly the real cure of her misery has been withheld. Meantime she remains ill, and but for the contingency of an opportune legacy she would be poor indeed. The question naturally arises, Have the embedded ligatures anything to do with this continued ill-health?

More recently (1883) a very instructive case came within my observation. A patient from abroad came under my care. She had a left ovarian tumor of considerable size. I consulted my friend, and he decided to remove it. This was accomplished at Christmas. The stump was carefully cauterized, and returned to the abdomen. He then examined the right ovary, and found it healthy. He was in an operating humor. He examined it a second time, and said that, in order to make sure that it should not be the site of future disease, he would remove it. He applied a double silk ligature, removed the ovary, and allowed the ligatured stump to drop back into the abdomen. The patient's recovery was tardy at first, owing to her intolerance of morphia, which was injected in routine fashion. This routine was so obviously injurious that I protested against it, and on its being discontinued she made a steady recovery.

For six months she made little effort. Thereafter she became more active, and took outdoor exercise. She complained of nothing

except occasional rheumatic pains, which were met by constitutional treatment.

Three years afterwards she suffered from a copious and offensive uterine discharge. This resisted all the ordinary treatment. All the parts within reach of observation were healthy. Ovarian disturbance could not account for it, for there were no ovaries. Still the discharge continued. Obviously the discharge proceeded from the site of the ligature, and found an exit through the still patent fragment of the Fallopian tube. Nothing was therefore done in the way of treatment beyond such an amount of warm douching as was required for cleanliness and comfort. The discharge continued steadily for months, varying in amount, but never absent; then it stopped for a few days; again it recommenced, and continued for varying periods; and so on for two years, when it finally ceased, and was followed by pain in the back. This interfered very much with active exertion, and gave rise to a constant feeling of weariness and lassitude. The uterine discharge never returned.

Shortly after Christmas, 1888, five years after the operation, she returned from a visit to the country complaining of numbness of the right foot and leg. On examination, I found the foot and leg swollen, the sensibility greatly diminished, and the surface temperature of the foot reduced three degrees below that of the corresponding foot. The œdema extended to the thigh; but the sensibility and temperature increased from the ankle upwards, and were normal at the groin.

The dorsum of the foot presented two blanched bloodless patches of irregular shape, and measuring respectively  $1\frac{3}{4}$  and  $2\frac{1}{2}$  inches in diameter. These were completely sensible to the touch, and suggested approaching gangrene. The appearance of whole limb indicated some very serious intra-pelvic obstruction to the circulation.

*Could this be at the site of the ligature? and could the patent Fallopian remnant which had afforded an outlet through the uterus have become occluded, leading to an accumulation within and giving rise to an abscess, the presence and pressure of which was thus retarding the circulation?*

These were the natural questions suggested to my mind. The great question, however, was

how to get the patient well again, and with this view I enjoined absolute rest in the recumbent position, and warmth. This was accomplished by having the limb enveloped in a great thickness of carded sheep's wool, with the addition of hot bottles; and by this means the foot and leg gradually recovered, until at the end of fourteen days they had regained their normal appearance, and thereafter the surface temperature of the foot rose to one degree higher than that of the corresponding foot.

The patient was able gradually to resume her ordinary duties, but complained of pain in the back, which was somewhat intermittent in character, but she never felt well. In the following July she went to the country, and there she complained of an obstinate diarrhoea. Her diet, which had been unrestricted, was gradually altered, until finally reduced to milk and lime-water. On this she seemed to thrive, but the pain in her back increased, and became continuous. It had also changed its position from the left to the right side, and extended round towards the front. On her return to town in September I examined her, and found a large tumor occupying the right side, and extending from the liver, with which it seemed continuous, down the right iliac space. The outer two-thirds were dull and palpable, the inner third resonant with the overlapping colon, and where this terminated a hard elbow-like projection could be felt. The manipulation of the tumor was unattended with pain.

The motions from the bowels were soft and clay-colored, the urine dark and scanty. Rest was tranquil, and the intellectual powers unimpaired. The breathing was interrupted by occasional sighs, and savored somewhat of pyæmia. The feet and ankles presented no appearance of œdema. The existence of very serious malignant disease was manifest; and Dr. Wyllie, who concurred in this view, kindly assisted me with the further treatment of the case. This consisted chiefly of palliatives, rest, and warmth, with the promotion of gentle action of the skin and bowels. Operative procedure was inadmissible. Ten days after her return to town the kidneys refused to act, and there was no urine passed during the remaining ten days of her life. On the fifteenth day the motions suddenly changed color to an

olive-black, and became very loose, copious, and frequent for thirty hours. Thereafter the hard knuckle at the edge of the liver could no longer be felt, and for a time she seemed to rally. Behind the uterus there was a hard mass, to which it was adherent; and Dr. Wyllie suggested that a gynæcologist should make an examination, in order to ascertain whether, in the event of the ureters being involved and blocked in this way, operative procedure could be entertained. Dr. Berry Hart kindly made the proposed examination, and found the broad ligament adherent on the right side, and the condition already described, but could offer no hope from an operation.

She gradually sank, and died on the morning of the twenty-second day. A *post-mortem* examination was conducted in due course by Dr. Russell, and I will leave him to describe what he found. I asked him to pay special attention to the site of the ligature, and he examined it with great care. He also examined the part where the hard, bony-like projection had been felt. It was the site of the gall-bladder.

#### PATHOLOGICAL REPORT.

Owing to the operation which had been performed, attention was first directed to the uterus and its appendages. The pedicle on the left side presented no signs of prolonged irritation, there being, in fact, a marked absence of thickening either in or around it. The right pedicle had, on the other hand, been the seat of much and prolonged irritation, the evidence of this being found in the presence of dense fibrous adhesions in its neighborhood, especially posteriorly, where the pedicle was incorporated with the parts in front of the sacrum and adjoining pelvis. On the uterine side of what looked like the seat of ligature there was a four-chambered cyst about the size of a small walnut, which contained purulent-looking material. The bladder and parts in front of the uterus appeared normal, but behind the uterus, and in the pelvis round the rectum, there was much fibroid induration and thickening, the thickening extending to and involving the walls of the rectum. This condition, extending upwards along the connective tissues in front of the spine, produced a like thickening and induration in them; and in it both ureters were

embedded, the left being so surrounded by this new tissue as to lead to its complete blocking, while the right was not so completely blocked. The left ureter was not only blocked and surrounded by this fibroid growth, but its wall evidently shared in the process, and was itself thickened. The process extended from the tissues immediately in front of the spine to the pancreas, the head of which it surrounded, and partially, at least, penetrated. Laterally it extended to, surrounded, and involved the suprarenal capsules to such an extreme degree that the left capsule could not be recognized in the indurated tissue occupying its normal site. In addition to this somewhat diffuse condition there was, in the great omentum, a scar-like puckering and a hard nodule under an inch in diameter. The mesentery was thickened somewhat generally, and at one part it contained a calcareous mass, presumably a gland. At the cæcum there was an area where the mesentery was the seat of a localized induration, accompanied with marked puckering of the part, but not causing obstruction. The left kidney, from the blocking of its ureter, presented the ordinary appearances of advanced hydronephrosis. The right kidney showed slight distension of its pelvis and calyces—the organ itself being large, swollen, cloudy, and somewhat fatty. The liver contained a considerable number of small whitish malignant nodules about the size of a sixpenny-piece in circumference.

Microscopical examination showed the new tissue to be mainly fibrous in character, but in it at the parts examined—as, for example, round the left ureter and the nodule in the omentum—there was an adenomatous structure, suggesting, and in parts closely resembling, proliferous cystadenoma of the ovary. In the liver the structure of the nodules was more that of an ordinary carcinoma.

The case, from a morbid anatomy standpoint, offers various points for discussion, which will probably be dealt with at some future time when the wider questions involved are considered. Meanwhile the opinion may be expressed, that the irritation round the ligature appeared to be the starting-point of an irritation which acquired, if it did not originally possess, malignant characters, and led to the condition briefly sketched in this report.—*Edin. Med. Jour.*

From the *Annals of Surgery* we have made the following further extracts :

#### RUPTURE OF THE RECTUM BY PETERSEN'S COLPEURYNTER DURING AN ATTEMPT TO PERFORM INTRA-PERITONEAL CYSTOTOMY.

BY GEO. RYERSON FOWLER, M.D., BROOKLYN, N.Y.

Surgeon to the Methodist Episcopal Hospital,  
and to St. Mary's Hospital.

On March 12, 1889, D. C. R., æt. 63 years, was admitted to my service at the Methodist Episcopal Hospital, with the following history : For six years he had suffered from vesical irritability and dysuria, with occasional attacks of retention of urine. Four months previous to admission a rubber catheter had been broken off in the urethra, the fragments being subsequently removed through an incision at the peno-scrotal junction.

Examination per rectum revealed a considerable enlargement of the prostate body, both in the middle and lateral lobes. A Thompson's searcher introduced into the bladder came in contact with calcareous material seemingly imbedded in the region of the left lateral lobe of the prostate.

On March 16, an attempt was made to perform intra-peritoneal cystotomy after the manner of Rydiger. The rectal bag or colpeurynter of Petersen was introduced into the rectum and 8 oz. of water, by actual measure, injected therein. A similar quantity of saturated solution of boric acid was then thrown into the bladder, after thoroughly washing out this viscus with the same solution, the penis being tied with a piece of rubber to prevent the escape of the solution from the bladder.

An incision four inches long was made in the median line about half way between the umbilicus and the pubic symphysis, and the parietal layer of the peritoneum reached. As the latter was identified, a black mass was seen through its transparent structure occupying the abdominal cavity. Upon opening the peritoneum this was found to be the rubber colpeurynter introduced into the rectum. It was at once evident that the rectal wall had given way and the bag had found its way into the abdominal cavity. It was observed that the patient, just prior to the opening of the peritoneal cavity, had exhibited signs of profound shock, this probably corresponding to the moment when the rectum gave



way and the colpeurynter entered the abdominal cavity.

The rubber bag was drawn into the incision sufficiently to cleanse its exterior, and was then partially emptied by turning the stop-cock attached to the rubber tubing which projected from the anus. The fluid was carefully gathered as it escaped, and, together with what was removed from the bag upon its withdrawal, was measured and found to amount, in all, to eight ounces. Upon withdrawing the bag, it was found that a rent fully four inches in length had been made in the anterior wall of the rectum, the upper limit of which reached to the sigmoid flexure.

The abdominal cavity was thoroughly cleansed with boiled distilled water, and an attempt made to close the rent in the rectal wall. Upon emptying the bladder in order to accomplish this, it was found impossible to adjust accurately the lower margins of the rent by means of the Lembert suture. Under these circumstances, the condition of the patient becoming exceedingly unfavourable for future interference, the operation upon the bladder was abandoned and an artificial anus established by bringing the edges of the tear in the rectal wall up to the lower angle of the incision and there securing them. In accomplishing this the real cause of the rupture was found to consist in a well-marked thinning and softening of the structures of the rectum itself. It was only after many trials and the greatest care in the manipulation that the artificial anus was established, the tissues of the rectal wall giving way again and again and the silk thread tearing out under the comparatively slight tension required to hold this portion of the rectum in position.

The patient survived the operation but a few hours, never having rallied from the shock following the occurrence of the accident. A post-mortem examination revealed the condition as above described, the softened, thinned, and otherwise weakened rectal wall being especially well marked.

The points of interest in connection with this case are as follows :

1. The fact that the quantity of water used to distend the rectal colpeurynter was rather below than above the average employed by surgeons. In fact, two ounces less than the minimum

quantity mentioned by leading writers as necessary to attain the object of the distension was employed in this case.

Cadge, in the course of a discussion on supra-pubic lithotomy before the Royal Med. and Chir. Soc., at the meeting of March 30, 1886, relates a case in which he introduced 18 ounces of fluid in the rectal bag, for the purposes of a supra-pubic lithotomy. When the bag was removed from the rectum a teaspoonful of blood followed, and then Cadge's suspicions were aroused. The patient went on very well for the first few days, when symptoms of suppression of urine arose. The patient died and at the autopsy it was found that a rupture of the upper part of the rectum, between it and the bladder wall, had taken place. Advanced renal disease was also present.

M. Nicaise, at a meeting of the Soc. de Chir., Paris, October 3, 1888, relates the following case: Patient, *æt.* 65 years, admitted for vesical calculus, which had produced chronic lesions of the urinary apparatus. Several lithotrities had been performed without relief, supra-pubic lithotomy was decided upon. Operation apparently successful for first 8 days, when vague and indefinite symptoms occurred. Death took place on the 15th day following the operation, without any evidence of peritonitis or other complication to account for the lethal exit. At the autopsy a rupture of the anterior wall of the rectum was found. This did not extend into the peritoneal cavity or bladder. There was considerable induration of the recto-vesical region corresponding to the site of rupture. The rectal bag had been filled with 10½ ounces of water and the bladder had been distended with 8½ ounces of fluid.

2. The condition of the rectal wall is worthy of attention. There can be no question concerning the resistance to rupture which the rectal wall offers under normal conditions. But the altered conditions incident to senility, combined with the degenerative change which the surrounding parts are known to undergo in chronic vesical disease, are precisely of a character to favor the occurrence of the accident under consideration. In the case herewith reported this was strikingly illustrated by the circumstances attending the rupture and the state in which the rectal wall was found, both at the operation and the autopsy.



It may likewise be suggested that the particular operative procedure attempted, namely, intra-peritoneal cystotomy, may have contributed to the occurrence of the accident; the support which the rectal walls receive from intra-abdominal pressure being lessened by the incision in the walls of the abdomen.

There are only two recorded instances of rupture of the rectum, prior to my own, occurring during an attempt to perform supra-pubic opening of the bladder. There are several references made to other cases, but these cannot be authenticated. Prof. Keyes, of New York, quotes the case of Nicaise, and then remarks that four or five other instances of this accident have occurred in France. It has been impossible to find any other reference to these cases except in the course of some remarks by M. Th. Anger, in the discussion upon M. Nicaise's paper, above referred to, and which is reported in connection with the latter. Mr. Anger says: "The case of M. Nicaise is the fourth or fifth of the same kind; I have therefore rejected the use of Petersen's balloon." A most thorough and extended search in the library of the Surgeon-General's office, including the proof-sheets of the forthcoming number of the Index Catalogue (Vol. XI.), having proved fruitless, I am forced to conclude that either M. Anger has not been properly reported, or else the cases which he referred to had come to his knowledge through channels other than the ordinary ones of information through publication.

The same kind of hearsay evidence seems to have been accepted by no less an authority than Sir Henry Thompson. In the article, "On the Supra-pubic Operation for Opening the Bladder," he makes use of the following language:

"First, in regard to the rectal distending bag. It has hitherto been made of a spheroidal or pyriform outline, and some operators, *it is said*, have, in emptying it, burst or seriously injured the rectum."

A further detail of facts in these cases, such, for instance, as those relating to the amount of fluid employed in distending the rectal bag, together with the condition of the rectal wall, would have been of incalculable importance in clearing up the question as to the dangers to be apprehended in the employment of this device. Two facts are undeniable: First, the advantages which the supra-pubic route to the bladder affords in

certain cases, and second, the almost indispensable assistance afforded by the rectal bag in overcoming the principal difficulties and dangers of the operation.

### THREE LAPAROTOMIES ON ONE PATIENT. RECOVERY.

BY H. C. DALTON, M.D.,

Superintendent City Hospital St. Louis.

Peter M., laborer, æt. 30 years, a strong stout man, was admitted to the hospital June 28, 1888. An examination revealed acute appendicitis, for which I operated the next day. The case was reported in the *Annals of Surgery*, February, 1889.

He returned to the hospital August 12, 1889, with a ventral hernia at the site of the operation. The hernia was pendulous, and formed a tumor as large as the double fist. In the operation to remove the diseased appendix, an incision, four inches long, was made, commencing an inch above the centre of Poupart's ligament, extending upward and outward. The cicatricial tissue covering the hernia was extremely thin.

I concluded the best procedure would be to make an incision in the centre of the cicatrix, cut away all of the same, and bring the sound tissue together. In attempting to execute this idea, I made an incision in the centre and in the long axis of the cicatrix, holding it well up, as I supposed, from the intestines. When the knife entered what we took to be the peritoneal cavity, I was mortified to find that I had cut directly into the intestine. Fluid feces flowed from the wound. The finger introduced showed that the gut was adherent to the entire under surface of the cicatrix—that they were virtually one wall. I next made an opening into the cavity through sound tissue to the inner side of the cicatrix, introduced the finger and attempted to break up the adhesion between it and the intestine. I succeeded in this, but in doing so tore the opening in the gut still larger. I now had the gut denuded of four inches of its peritoneal coat, with a transverse hole in it occupying half its circumference. Resection being plainly the only feasible procedure, I then removed four inches of the intestine, together with sufficient mesentery to make the proper V-shape. The mesenteric wound was closed by a continuous silk suture.

In making the circular enterorrhaphy I used Senn's rubber ring, and was extremely pleased to find how quickly it enabled me to finish the operation. The entire operation, from the first incision, to putting patient to bed was thirty-five minutes. I had, however, practiced the operation with the rubber ring quite often in the dead-house.

No fæces escaped into the peritoneal cavity. I had taken the precaution to pull out the intestine, empty it, and have an assistant compress it on each side of the wound to prevent the escape of fæcal matter. The cicatrix was cut away and the wound closed without drainage. It healed by first intention.

The patient stood the operation well. For seven or eight days he had some pain in the abdomen and vomited occasionally, but at no time did his pulse exceed 90, nor did his temperature reach 102° F., except on one afternoon. As he had been given a purgative before the operation, no attempt was made to move the bowels for a week, when enemas were given which produced several actions. About the tenth day a diarrhœa developed which lasted six or eight days. At that time a mild attack of dysentery supervened, which lasted about a week, after which the patient made a rapid recovery. He was out of bed on September 8th, twenty-four days after the operation, and in a few days was doing detail work around the hospital.

Unfortunately, the parties watching the patient failed to discover the rubber ring in the fæces, although they were given positive instructions to carefully watch for the same. I take it that the diarrhœa was caused by irritation at the site of the rubber ring.

On September 30th, while apparently in the enjoyment of excellent health, he was very suddenly seized with a most agonizing pain, referred to the umbilicus. He was in collapse in less than ten minutes after the seizure. Extremities were cold and clammy, and beads of cold perspiration were seen over his entire person. His pulse was very fast and weak; rectal temperature, 97.5°. He yelled with every breath.

I diagnosticated acute intestinal obstruction, stimulated him very freely, gave morphine hypodermically, and applied heat to the extremities. As soon as possible (in about half an hour) he

was put under ether preparatory to laparotomy. His pulse improved under stimulants and ether, and during the operation was of fair volume. Just before he was etherized he stated that the pain was most intense at the site of the old wound.

Remembering my former sad experience, I was careful to avoid the cicatrix left from the last operation, and hence made a parallel incision about five inches long, an inch to the inner side of the same. The intestines were found so inflamed, thickened and matted together, that it was quite a while before we could positively make out the exact condition, which proved to be three parallel coils or knuckles of intestines, bound down by a band. The inner coil was found to contain the portion through which the circular enterorrhaphy had been made. The band was cut and removed, adhesions broken up with considerable difficulty, and the intestine straightened.

Thinking, perhaps, some narrowing of the gut might have taken place at the site of the circular enterorrhaphy, and that this might in part account for the obstruction, we deemed it unwise to close the abdomen without definitely excluding this possible cause of obstruction. Of course we understood that the band was ample cause for the obstruction, and ordinarily, we would have completed the operation as soon as the obstruction by the band had been relieved, but in this case the portion of the intestine formerly operated upon was one of the knuckles caught under the band, and in addition (which was very suggestive of the closure of its lumen) this part was particularly thickened and hard upon pressure. I attempted to determine the patulousness of the intestine at this part, as one would push his finger into the inguinal ring, with the scrotum ahead of the finger. Owing to the extreme thickness of the intestine, this could not be done. An incision large enough to admit the index finger was made, the finger passed in, and the site of the circular enterorrhaphy examined. A very slight constriction was found at this part; no more, however, than could be accounted for by the cicatrix. The wound in the intestine was closed, and, as there had been some fluid (serum) in the belly, it was washed out, and a glass drain left in the lower angle of the wound. Patient was put to bed and hot bottles packed around him.

The operation lasted an hour and a half. A half hour after the operation his temperature was 98°, pulse 120, respiration 36. As there had been but little discharge through the tube, it was removed, and the opening sewed up on the second day. The patient was then doing well, but on the third day the abdomen was considerably distended and painful to pressure. In the afternoon of that day his bowels moved spontaneously, after which the distention disappeared.

On the seventh day a fæcal fistula was noted. This, however, was not large, and remained open but four days. After this his recovery was uninterrupted. He remained in the hospital four months after the operation, working as a detail around the institution. When discharged he had grown quite stout, and was in the enjoyment of perfect health.

The accidental cutting of the intestine in this case teaches that in operating for ventral hernia the incision should always be made to the side of the cicatrix in sound tissue, as there are no means of determining beforehand in what cases adhesions have taken place between it and the intestine.

Possibly it might have been better not to have operated on this patient; the reduction of the mass and an elastic support might, perhaps, have been better. But when we consider that the tendency of such a hernia is to steadily enlarge, even with elastic support, especially in the laboring classes, we must believe that the operative procedure is the better one.

Had I to perform the operation to-day, I should close the ends of the intestines, employ lateral anastomosis, and should not resect the mesentery, but would close it, as advised by Senn.

#### THE DIAGNOSIS OF PAGET'S DISEASE OF THE NIPPLE.

Surgeons and dermatologists have not infrequently hesitated over a case of chronic inflammation of the nipple resembling in its external appearance an eczema, doubting whether the radical operation of excision of the breast should be undertaken; or, in other words, doubting whether they stood in the presence of what was really chronic eczema, or that affection which long ago Paget taught was likely to

be followed by a carcinomatous involvement of the gland. Failure in the ordinary applications for eczema, the absence of itching, suspicious induration and long-standing duration, have been the clinical data upon which a diagnosis was usually founded.

Darier, in April, 1889, made a communication to the Biological Society of Paris concerning a new form of *psorospermia* found in "Paget's Disease of the Nipple," describing the parasitic *sporozoa* as occurring inside the epithelial cells of the affected parts. These observations have been confirmed and the whole subject greatly elaborated by Louis Wickham in his admirable monograph, "Maladie de la Peau dite Maladie de Paget." According to these authors, the parasitic bodies are found usually in the lower layers of the epidermis of the diseased tissue, and also in the milk-bearing ducts, and measure from one-third to one-half of the stratum mucosum. So impressed is Wickham with these discoveries, that in the conclusion of his essay he states that Paget's disease is due to the parasites of the class *sporozoa* and the order *coccidia* or *psorospermia*, and should be relegated to the group *psoropermosis*. He believes, moreover, that the presence of these bodies, readily detected by microscopic examination of the crusts from the diseased nipple, constitutes an excellent and rapid method of diagnosis.

Further confirmation of these observations comes from Dr. A. B. Macallum (THE CANADIAN PRACTITIONER, Oct. 16th, 1890), who has examined two cases of Paget's disease, and found the bodies in question. In order to avoid disputed points in pathology, Macallum suggests the word *endocyte* as a neutral and readily applicable term to describe these bodies until their true nature shall be exactly determined. Darier advises that the crust shall be teased out on a slide in Gram's iodine solution and examined with a moderately high-power objective. If fat is present, this may be removed by placing the specimen for several hours in a 10 per cent. solution of ammonia. Macallum modifies this method and secures a permanent preparation by attending to the following directions: The crust, or a portion scraped from the nipple, is teased out in a drop of tincture of iodine on the slide, the cover



glass put on, and after a couple of minutes a drop of 50 per cent. glycerine run in. The alcohol and the iodine fix the endocytes, and the iodine gives them a brown-yellow tint, which fades slowly in glycerine. This investigator was thus able to demonstrate these bodies in the free cells, the unteased portions, and in the epithelial cells covering the retracted nipple and filling the ducts. Endocytes present in epitheliomata are distinguishable from these by the absence of cystic membrane, their smaller size and their situation in the central cell of the "nest." Macallum, while unwilling fully to endorse the views of Darier and Wickham, is convinced that the sporozoa furnish a valuable aid in the diagnosis of Paget's disease.

This seems to us a most important field for future work, and not only the diagnostic value of the endocytes, but also their essential nature, are worthy of the careful study which they are at present attracting as etiological factors in various chronic cutaneous disease, and in epitheliomata.—*Univ. Med. Mag.*

WHEN SHOULD MEDICINE BE TAKEN.—The editor of the *Medical Summary* for November thus discourses on this topic: The proper time for the administration of medicines is of equal importance in many instances with the selection of the medicine itself. The sooner physicians realize this fact the better for the patients. A large number of medicines are used in a routine way, after meals, but too often; when so employed, they are not properly absorbed, or they hinder digestion, and thus undermine the foundations of nutrition. For example, if the bromides be given after meals their absorption is hindered, and their presence in the stomach interferes with the peptic ferment, so that in addition to the depression caused by bromide treatment, we have superadded that which follows derangements of digestion. Some medicines can be taken at any time because of their diffusibility; other medicaments, in order to produce good results, should be exhibited after meals; and others again should be used only between meals, when the stomach is presumed to be empty. The administration of pepsin and pancreatin furnish excellent illustrations of these principles. When the secretions of the stomach are sufficiently acid, pepsin alone can be used in

the course of half an hour after food; but if there be a lack of acidity, it will be advisable to combine the pepsin with an acid, preferably hydrochloric acid, which is the normal acid of the stomach. Should gastric digestion be slow or imperfect, a little more acid can be added from time to time, although there will be no need for increasing the amount of pepsin provided the peptones are taken up. In the use of pancreatin, on the other hand, the acid condition of the stomach will destroy its activity. This will not take place, however, if the pancreatin be taken with food just after the first mouthful is swallowed, or if the preparation be taken about two or two and a half hours after, when the contents of the stomach are supposed to be neutral in reaction.—*Medical Age.*

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## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
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TORONTO, JANUARY 16, 1891.

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### THE CURRICULUM OF THE ONTARIO MEDICAL COUNCIL.

At the last meeting of the Ontario Medical Council, a committee, consisting of Doctors Bray, Bergin, Thorburn, Johnson, and Oliphant, was appointed to consider the matter of proposed changes in the requirements of the curriculum. The following extract from the report of the council's proceedings will show the intention:

"Moved by Dr. Bergin, and resolved—That the registrar be directed to place himself in communication with the authorities of the Canadian and British universities and medical colleges, and obtain their views thereon, and also obtain curricula of the leading universities on the continent of Europe; and further, that a committee be appointed, to whom shall be submitted the information so obtained, said committee to frame a report, a copy



of which shall be supplied to each member of the council at least two weeks in advance of the next annual meeting. Carried."

The committee will find that the chief difference between the curriculum of the council and those of other institutions, especially in Great Britain and the Continent, is that the former requires attendance for two different sessions on one course of didactic lectures in nearly all subjects, while the latter only require one session's attendance on each of such courses. The tendency of the age is to favor less lecturing and more teaching. It is thought by many that purely didactic lectures are of little use. We have no sympathy with any such idea; but, of course, a good deal depends upon the exact meaning of purely didactic lectures. In any case, however, they should, we think, occupy an important place in the requirements of a medical curriculum.

The most important part of a student's training is that which he receives in a tutorial and practical way. The proper places to study the various parts of biology are the laboratories and dissecting rooms. The same rule applies to chemistry. Among the great advances of modern medical science, none are more marked than those of chemistry, especially that portion which is designated physiological chemistry. A student cannot obtain a proper knowledge of this important subject without a prolonged course of practical instruction in each of the two years of his primary course. In the final years it is very important that the student should spend a large portion of his time in the study of pathology and bacteriology in the laboratories and dead house; and as far as medicine, surgery, and midwifery are concerned, he should have ample opportunity to study the different aspects of diseases at the bedside.

We understand that these various aspects of the methods of teaching will be carefully considered by the committee, and we hope that the curriculum of the council will be placed on a thoroughly scientific basis. The members of the council have always shown an earnest desire to be fully abreast of the times, and we have the utmost confidence that at the present juncture they will be found quite equal to the occasion, and that medical science and art will profit thereby.

## Meeting of Medical Societies.

### TORONTO MEDICAL SOCIETY.

Dec. 11th, 1890.

The president, Dr. Spencer, in the chair.

Dr. J. F. W. Ross read a paper on

#### THREE CASES OF TUBERCULAR PERITONITIS SUBMITTED TO OPERATION.

An abstract of this paper appears in the present issue of *THE CANADIAN PRACTITIONER*, page 35. In the discussion which followed, Dr. Temple referred to six cases which had been operated on by himself. He had not been able to follow the subsequent history in all of these cases. One case of operation was in a woman, *æt.* 40, the peritoneum was found studded with tubercles and the intestines matted together. A drainage-tube was inserted. The patient recovered and is now quite well.

In a second case, the peritoneum was found thickened and the surface presented a very curious appearance, it was covered over by stalactites as long as one's little finger; the intestines were matted together by adhesions. She got perfectly well after the operation; a small sinus exists, however, which still discharges a little watery fluid. A third case was that of a girl who had been working in a hay field, where she got wet; peritonitis followed; there was considerable elevation of temperature. An operation was performed; fluid was found in the abdomen, and the peritoneum studded with tubercle. A drainage-tube was inserted. She went home after leaving hospital and has not been heard of since. Dr. Temple advocated operation, in these cases, by exploratory incision and washing out the abdominal cavity. The diagnosis is often obscure, and the operation clears it up; the diagnosis is assisted by the peculiar abdominal pains, hectic symptoms, fluid; the patient suffers from diarrhoea and loses flesh; all these symptoms point to a tubercular origin of the disease.

Dr. Atherton exhibited a patient upon whom he had operated July 30th, 1890. She had previously suffered from ascites, oedema of the feet and legs, and general anasarca. On July 2nd, the left chest had been aspirated for pleuritic effusion, and forty-four ounces of fluid removed.

At the operation of adominal section, the peritoneum was found very much thickened and studded with tubercles, these were present also on the intestines; there was a considerable amount of fluid; the cavity was flushed with 1-5000 perchloride of mercury: sutures were inserted; a tube was not used for drainage. The patient recovered and in November returned to her work.

A second case was that of a woman, æt. 27, a multipara, whose abdomen began to enlarge eight months before treatment was sought. An ovarian tumor had been diagnosed by several physicians. She suffered from pain in the right chest, where pleuritic friction was heard on auscultation. Feb. 7th, 1890, she was tapped between the pubes and umbilicus and serous fluid drawn off. In June it was noticed that abdomen was again increasing in size; she was again tapped and a quantity of fluid, not quite as much as before, drawn off. She has continued well since last tapping. The diagnosis in this case was not very clear. A third case was that of a man, æt. 45, a heavy drinker, with ascites and dropsy of legs. He was tapped and the fluid did not return. He died suddenly at a subsequent date. The liver was found enlarged and fatty, and the intestines adherent.

Several years ago Dr. Atherton had two cases of a condition which he believed to be tubercular peritonitis with ascites; recovery took place in these cases without operation of any kind. Dr. Atherton thinks that tapping alone is often sufficient without making an exploratory incision. A drainage-tube is not necessary if the fluid be merely serum.

Dr. A. A. Macdonald has had two cases in his practice to which he would refer. In one case there were symptoms of incipient phthisis for two years, afterwards pleurisy with effusion; a history of consumption in the family. After exposure to cold she contracted a second very severe attack of pleurisy, and a few days after had symptoms of acute peritonitis and inflammation of the pelvic organs; there was a large inflammatory new formation in the region of the uterus, particularly towards the right; the temperature was persistently high, with some remissions. This condition of affairs lasted eight weeks, during which time she was gradually losing strength and getting worse. Obstruc-

tion of the bowels occurred, and operation was deemed necessary; this was accordingly undertaken. The peritoneum was found thickened, intestines adherent; there was very little fluid. The peritoneum was studded with tubercles, and the serous membrane was thickened and inflamed. Adhesions were separated as far as possible and the abdomen closed; the temperature remaining below 100° after the operation with the exception of one occasion, when it rose to 103°. A drainage-tube was kept in place for three days. The wound healed and the patient recovered. For over a year she has been quite well: she has lost her cough and now does not present any consumptive symptoms.

In a second case Dr. Macdonald operated for pyosalpinx; he found the peritoneum studded with tubercles. Recovery occurred.

Dr. Price Brown asked if creasote had been given a fair trial in these cases of tubercular peritonitis, and spoke of its beneficial effects in the treatment of tubercular disease elsewhere.

Dr. Spencer asked if drainage in these cases were considered necessary any more than in cases of pleurisy with effusion.

Dr. Ross, in reply, agreed with Dr. Temple that the diagnosis was difficult. In the treatment the question is how many cases will get well with aspiration alone, and in what cases is incision necessary. Laparotomy is preferable to simple tapping, because it is safe and we can confirm our diagnosis. A question of interest is as to the method in which a cure is affected by such procedure; is it on account of the withdrawal of the fluid only? Drainage in these cases is not necessary. Dr. Ross has not used creasote.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON ORTHOPÆDIC SURGERY.

Stated meeting, Nov. 21st., 1890. V. P. Gibney, M.D., Chairman.

#### DR. BEELY'S APPARATUS FOR MEASURING THE THORAX.

Dr. N. M. Shaffer exhibited one of these instruments, which had been presented to him while he was in Berlin, by the inventor, Dr. Beely. A somewhat similar apparatus had been called by Dr. Nebel a Kyrlograph. The

apparatus consists of a series of narrow parallel steel bars, placed closely together, and sliding in a rectangular metal frame. Each bar terminates in a blunt point, near the end of which, on the under surface, is a metallic point or stylus. This arrangement of bars looks not unlike a huge comb. On bringing the pointed ends against the chest, or any similar object having an irregular outline, the bars adjust themselves in the frame, so that the pointed ends form an outline identical with that of the object against which they were placed. A simple cam movement then clamps them in this position. The instrument is next laid upon a piece of paper resting on a sheet of felt, and the points on the under surfaces of the bars are made to puncture the paper by passing a small roller over all the bars successively. In this way, the desired outline is recorded on paper as a series of small punctures, about one-fifth of an inch apart. When taking a tracing from a patient while standing, an erect position is secured by means of a plumb-line fastened to a belt which is buckled around the body. In order to secure still greater accuracy, the instrument is provided with a spirit-level. The exact level at which this transverse tracing of the chest is taken may be marked with nitrate of silver, so that tracings taken at different times may be readily compared. With the patient in the prone position, the instrument may be used; but a longitudinal tracing, as of the spinal column, with the patient erect, is not within the contemplated scope of the instrument.

Dr. Shaffer said that he had made several tracings with this instrument, and he had been very favorably impressed with its action and accuracy.

Dr. John Ridlon said that he had seen Dr. Beely using it with the patient in the prone position, and that he had understood that its action was only satisfactory when employed in this way. At the Berlin Congress, Dr. Nebel had exhibited a much cheaper but less accurately made instrument, constructed on the same principle. A series of round rods were placed parallel to each other, and made to slide through a large round bar. The small bars terminated in buttons, which were applied to the chest. The outline was then transferred to paper by laying the machine on the paper, and passing a pencil along the buttons.

Dr. A. B. Judson admired the mechanical features of the instrument, but thought that such tracings of cases of lateral curvature were of but little value, in view of the fact that the changes in contour occurred from day to day as a result of differences in the general tone of the patient.

#### A CASE OF SUPPOSED EVACUATION OF A PSOAS, OR LUMBAR ABSCESS THROUGH THE VAGINA.

Dr. Samuel Ketch presented such a case. A child, five-and-three-quarter years of age, of healthy parentage, and having a good family history, was admitted to the hospital on October 22nd, 1890, with the history of a fall six or eight weeks prior to her admission. Two weeks before she was presented for examination, she was first noticed to walk peculiarly, and she complained of "pain in her feet." She was thought to be suffering from hip-joint disease by her attending physician. At the time of the examination her general condition was fair, and there was no pain, and the motions at the hip-joint were normal, with the exception of a slight limitation of extension on the right side when the patient was in the prone position. Close examination revealed a small kyphos in the lower lumbar region; the right hip was prominent, and relatively larger, and there was a feeling of fluctuation on that side. There was a discharge of pus from the vagina. The case was of interest, both on account of the unusual mode of evacuation of the pus, and because of the symptoms which had led to the diagnosis of hip-joint disease.

Dr. Shaffer had seen the case just reported. He had met with cases where the abscesses of Pott's disease opened into the rectum, vagina, and bladder; and in one case of disease in the dorso-lumbar region, which had extended over a period of about twenty years, pus was discharged from the bladder at intervals of a few months, accompanied by the usual symptoms of acute abscess formation. The cases in which the abscess had opened in these unusual situations had all done well, and he attributed this to the valvular opening through which the pus was discharged. In one of his cases, an abscess was found pointing into the rectum, and was purposely evacuated at this point by means of a trocar. The result had been extremely satis-



factory. A similarly favorable prognosis could not be given where abscesses ruptured into the lungs. He had seen several of these cases, and in one, now under observation, which he considered unique, a boy with mid-dorsal disease suffered at intervals from fever, accompanied by the expectoration of pieces of the cancellous portion of bone.

Dr. R. H. Sayre said that anatomical considerations would lead one to expect that, owing to better drainage, abscesses opening into the alimentary canal would pursue a more favorable course than those which ruptured into the lung. He recalled a case where an abscess, situated on each side of the vertebræ, suddenly enlarged and caused fatal asphyxia. The autopsy showed that "a saddle bag" abscess was situated at the bifurcation of the trachea.

Dr. J. K. Young, of Philadelphia, said that he had recently seen a case of lumbar Pott's disease, in which the abscess had been evacuated through the vagina, and also through the abdominal walls. It had pursued a favorable course.

Dr. Thomas H. Manley had once treated a case of abscess in the mid-dorsal region, where evacuation had occurred through the umbilicus. It made a good recovery.

Dr. Agramonté suggested that the exact condition present in Dr. Ketch's case could not be affirmed until the vaginal discharge had been examined for gonococci.

The Chairman thought that such an examination was highly important, and suggested that search should also be made for the opening through which the pus was discharged.

Dr. Ketch, in closing the discussion, said that he was aware that the report of the case was somewhat premature, and had only been presented at the request of the Chairman for clinical material. He had not been able as yet to make the examinations suggested; but the rational symptoms and the clinical history of the case seemed to warrant the position which he had taken. In an experience of thirteen years at the Orthopædic Dispensary, he had never before met with such a case, and had only seen one case in private practice, and in this one Dr. L. A. Sayre had verified the condition. In this case there was a favorable termination.

## Clinical Notes.

### TWO CASES OF EXTERNAL URETHROTOMY.

BY ANGUS MACKINNON, M.D., GUELPH.

CASE 1.—*Complete laceration of urethra—The broken ends retracted from each other—The result of a fall.*

A. D., a young man about twenty-five years of age, came under observation on April 19th, 1889. The day before, he fell so that the perineum struck the sharp edges of a board. There was no external wound, but he soon discovered blood flowing from the urethra. By making forcible efforts, he succeeded in passing a little urine that night and next morning. On making examination the scrotum was found all discolored, and the perineum much swollen. He could not now pass any urine. Repeated attempts to pass a catheter failed, the point of the instrument always leaving the urethra at the seat of injury. Chloroform having been administered, the patient was placed in the lithotomy position, and, with the concurrence and assistance of Dr. Howitt, I cut down upon the urethra. After turning out a large clot, the point of the sound previously introduced into the urethra presented itself at the bottom of the incision. It was now obvious that the urethra was completely lacerated, as the whole circumference of the tube was seen where the sound escaped from it. I was not prepared to expect so much difficulty in finding the other end as I experienced. Indeed, it will seem almost incredible to any surgeon who never did this operation when I say that careful search in good light and with every facility was made for nearly an hour before the posterior part of the canal was found retracted among the tissues about an inch from the anterior portion. During this long search the patient at one time struggled under the anæsthetic, and thus forced a few drops of urine into the wound. This at once guided the probe into the urethra. It was but the work of a few minutes to introduce a large catheter into the bladder and complete the operation. The laceration occurred at the commencement of the bulbous portion of the urethra.

In the fourth week I was compelled to



abandon all use of instruments, owing to the development of severe orchitis and high fever.

In the following September, it was found, as was expected, that a very tight stricture had formed at the seat of injury—no doubt due to cicatricial contraction. Though he was able to void urine in a small stream, it was not possible to pass any catheter.

In a second operation, much less difficult than the first, the stricture was freely divided, and a large catheter kept in the bladder till the external wound was healed. Although perfectly well, he has been advised to continue the use of a large bougie (No. 14) at least once a week.

CASE 2. R. M.; this man was over eighty years old, and suffered from an impermiable stricture for many years. Much of his time for the past ten years was spent in forcible attempts to void his urine. The stream was always small, at times only drop by drop. Besides the stricture, a false passage existed, the probable result of an effort made by some surgeon years ago to cure his stricture. Complete retention of urine followed a slight exposure to cold. His ordinary medical adviser, in view of his age and the character of his trouble, offered him no hope, and failed to give him any relief. Late in the afternoon, I first saw the patient. He was at once removed to the hospital, and a warm bath given. Even under anæsthesia, I failed to pass any size of catheter. The aspirator was therefore used to relieve the bladder, and preparation made for operation next morning.

An incision in the perineum about two inches long was made down to the urethra, as in the first case. A large sound was introduced into the urethra as far as it would pass, and the passage opened on its point. A stout silk ligature was put into each side of the urethra, and each one tied in a loop and given to an assistant to hold. By these means the passage was kept well in view. The false passage led me astray for some time, but after breaking down some bands, I finally succeeded in passing a fine probe through the stricture. Along side of this I passed another, and then a larger one, until I found I had space enough to pass a grooved sound into the bladder. I then freely divided all the stricture, so that I could pass a number twenty bougie into the bladder.

During convalescence, through some neglect on the part of the nurse, the rectum was allowed to become firmly impacted with fæces. Besides he had a mild orchitis; yet in six weeks he was well enough to leave the hospital. The chief interest in this case centres on the advanced age of the patient, and the prompt recovery from what must have been for him a very formidable operation. He remains entirely free from all vesical irritability—a comfort he knew not for over twenty years.

Since writing the above, attention has been called to the value of making pressure above the pubes to force a jet of urine into the wound. See January Number *Am. Journal Medical Science*, article by Dr. J. W. White on Perineal Section.

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## Book Notices.

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*The Physicians' Visiting List—Lindsay & Blackiston's for 1891.*

This is one of the most popular visiting lists published. It is well arranged, contains much valuable information, and being small, requires but little space. This is quite a consideration to many who do not care to have the appearance of a well-fitting coat spoiled by a big book in one of the breast pockets.

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## Book Reviews.

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*Diseases of the Eye.* By Edward Nettleship, F.R.C.S., Surgeon to the Royal London (Moorfields) Ophthalmic Hospital, etc. Fourth American from the fifth English edition, with a chapter on examination for color-perception by William Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1890.

Mr. Nettleship's book is well known both in Britain and America. It was for many years the favorite text-book for the student, and still is one of the most compact and useful works on the subject published in the English language. The book is specially written for the student, and will prove of great service to him whilst attending the hospital clinic and preparing for examination. The American edition is enhanced in

value by the addition of the chapter on examination for color-perception by Dr. Thomson, of Philadelphia.

*A Hand-book of the Diseases of the Eye, and Their Treatment.* By Henry R. Swanzy, A.M., M.B., F.R.C.S.I., Surgeon to the National Eye and Ear Infirmary: Examiner in Ophthalmic Surgery in the Royal University of Ireland, etc. Third edition. London: H. K. Lewis, 136 Gower Street, W.C., 1890.

This book has become so widely and so favorably known that an extended notice of this, the third edition, is uncalled for. It is a capital text-book for the student, and will be found equal to, if not surpassing, any of the modern works on the subject of ophthalmology. The new edition has been thoroughly revised, all recent advances in the study of the subject have received due attention, the articles are written in a clear and comprehensive style, and the illustrations are well executed and adequate. The student who receives this as his text-book will find it in all respects an excellent work.

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## Personal.

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DR. E. H. TRENHOLME, who has practised in Montreal since 1862, has left the city on account of ill-health, and we learn from the *Canada Medical Record* that he is not likely to return. He is now in Los Angeles and will probably make that vicinity his permanent home

At a recent meeting of the London Medical Association, the following officers were elected: President, Dr. W. H. Moorehouse; Vice-President, Dr. J. McArthur; Treasurer, Dr. T. P. Drake; Secretary, Dr. J. B. Campbell.

DRS. J. D. THORBURN and Winnett have returned from Berlin to Toronto.

DR. GEO. T. ROSS, of Bishop's College, Montreal, after a stay of some weeks in Berlin, has returned with some of the precious lymph in his possession.

DR. D. J. GIBB WISHART has removed to 47 Grosvenor St.

DR. J. E. ELLIOTT has returned from Europe and resumed practice in Toronto.

DR. H. W. DAY, of Trenton, one of the best known physicians of Central Canada, a member and past-President of the Ontario Medical Council, has been appointed Registrar of the County of Hastings.

PROF. RAMSAY WRIGHT is likely to remain in Berlin for some months. The Vice-Chancellor does not wish him to return until he has learned all that can be learned about the German's methods of research in bacteriology.

DR. KOCH is 47 years old. After graduating at the University of Gottingen, he commenced practice in a little village near Hanover, but failed to make a living. He then tried Rackwitz, a small malarious town in Prussian Poland, with no better results. Finally he settled in Wollstein, and in 1880 attracted much attention by his analyses and medical testimony in the famous Speichert poisoning case. In 1882 he discovered the bacillus of tuberculosis, and in 1883 the germ of cholera while acting as the head of the medical commission sent by the German Government to Egypt and India to study the causes and prevention of cholera. On his return to Germany he received an honorarium of 100,000 marks, the rank of Privy Councillor, and the Rectorship of the Imperial Institute of Hygiene.

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## Obituary.

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DR. JOHN STEWART, a practitioner of Kingston for nearly fifty years, died in that city, Jan. 12th, in his 80th year. He was a native of Perthshire, Scotland, and was educated in Edinburgh, where he graduated in 1833. He was well known to a past generation as a man possessed of great ability, pugnacity, and eccentricity. He took a prominent part in the establishment of the Kingston General Hospital and the Royal College of Physicians and Surgeons.

## Births, Marriages, and Deaths.

### BIRTHS.

SHEARD.—On Monday, January 5th, the wife of Dr. Sheard of a son.

### MARRIAGES.

HODGKIN—JOHNSTON.—At the residence of the bride's father, December 31st, the Rev. Thomas I. Hodgkin, M.D., of "Clinton Elms," Deerpark, and Anna M., daughter of James Johnston, Esq., Kincardine.

WISHART—GUNTHER.—On Monday, January 5th, D. J. Gibb Wishart, M.D., to Rebecca M., daughter of Egmond Gunther, Toronto.

FARNCOMB—COLDWELL. — At Seaforth, on January 7th, 1891, Alfred Farncomb, M.D., L.R.C.P. (Eng.), of Newcastle, Ont., to Hannah Mary, eldest daughter of W. E. Coldwell, Esq., of Constance, Ont.

## Miscellaneous.

FOR the privilege of reporting Professor J. William White's valuable address on Antiseptic Surgery, we are indebted to the courtesy of the Editor of the *Annals of Surgery*, to whom it was first promised.

THE *University Medical Magazine* (University of Pennsylvania) announces a new departure in instituting a department which will contain a summary of the progress of medicine, abstracted from the most important medical journals at home and abroad.

At the recent meeting of the Southern Surgical and Gynecological Association, held at Atlanta, Georgia, Dr. Louis S. McMurtry, of Louisville, was elected president, and Dr. W. E. B. Davis, of Birmingham, Ala., was re-elected secretary.

### ECZEMA:—

R.—Zinci oxidi . . . 1 ounce.  
Glycerinæ . . . 2 ounces.  
Mucilag. acaciæ, aa, . . 2 ounces.

M. In extensive patches of eczema this paste is very agreeable. If itching is severe, one per cent. of carbolic acid may be added.—*Courier of Medicine*.

DIOVIBURNIA.—Dr. I. N. Love, Professor of Diseases of Children in Marion-Sims College of Medicine, St. Louis, says: The subject of uterine disease reminds me that during the past six months I have had my attention drawn to a remedy which goes under the name of dioviburnia. I was not familiar with the component parts, but having read the emphatic endorsement by Drs. J. B. Johnson and L. Ch. Boislincier, of St. Louis, two of the most eminent professors and practitioners of the city, as well as that of Dr. H. Tuholske, I was induced to give the compound a fair and thorough trial, and I am convinced that in dioviburnia we have a valuable addition to our armamentarium in our battle against the diseases of women.

A NEWSPAPER DIRECTORY FOR CANADA.—Messrs. A. McKim & Co., advertising agents, of Montreal, are preparing what will be the first comprehensive newspaper directory of this country. Canada is now quite large enough, and its journalistic interests of sufficient importance, to require its own annual newspaper directory; and there are several new features in the proposed work which will make it a valuable hand-book for all seeking information concerning the Canadian press.

Dr. O. W. Holmes says it is not true. The poet physician has had it brought to his notice that a learned small girl of Boston has spoken of him as having been for many years a "Professor of Monotony at Harvard University."—*Maryland Medical Journal*.

INJECTIONS FOR SEAT-WORMS.—The *Annals of Gynecology and Pediatrics* quotes the following prescription to remove seat-worms:

R.—Tincture of rhubarb . . . 30 drops.  
Carbonate of magnesium . . 3 grains.  
Tincture of ginger . . . 1 drop.  
Water . . . . . 4 ounces.

The mixture should be warmed and used as an injection, repeating three or four times in twenty-four hours.

### WANTED.

PHYSICIAN—three years' experience. Graduate of Bellevue Hospital Medical College, also Ontario Graduate. Desires a partnership or location on salary. References satisfactory. Address

F. W. P., Physician and Surgeon,  
324 East 30th Street, New York.



THE  
CANADIAN PRACTITIONER

FORMERLY "THE CANADIAN JOURNAL OF MEDICAL SCIENCE."

EDITOR:

A. H. WRIGHT, B.A., M.D. Tor., M.R.C.S. England.

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TORONTO, FEBRUARY 2, 1891.

Original Communications.

THE TREATMENT OF TYPHOID  
FEVER.\*

BY J. E. GRAHAM, M.D., L.R.C.P.,

Professor of Clinical Medicine in the University of Toronto.

*Gentlemen:*

It would seem fitting that the very excellent address upon the etiology of typhoid fever, to which we have listened, should be followed by some remarks upon the treatment of that disease. It was the wish of the University authorities that this part should have been undertaken by one who had spent as much time and energy in ascertaining the best methods of treatment as Prof. Vaughan has spent in the investigation of the origin of this disease. Owing to domestic affliction, the gentleman whom we had hoped to secure to address you upon this subject was prevented from coming, and, at a very late date, it was thought best that I should try to fill the vacancy.

One consideration more than any other caused me to take up this subject rather than let it go by default. During the past three months, while having under my care a very large number of cases of typhoid fever in the Toronto General Hospital, I have become convinced that I at least, and probably many other practitioners as well, have been inclined too much to rely upon a purely expectant plan of treatment, and that we have not employed all the means at our disposal to counteract the effects of this poison upon

the human system. When it is stated that in the nine years previous to 1880 there were 27,000 deaths from typhoid in England alone; that in Ontario we have had in the nine years beginning with 1880 4,450 deaths, an average of about 500 each year, and that the mortality from the expectant plan of treatment has been in the neighborhood of 20 per cent. of all cases, you will agree with me that the subject is well worthy of our careful study, and that its importance is a sufficient apology for a lecture upon such a well-worn theme.

The theory of typhoid fever which in the present state of our knowledge seems to be the most probable is that the virus, in the form of bacteria, when swallowed, "is taken up by the lymph follicles of the ileum, and carried to the mesenteric glands, where it may remain for a time in a state of latency. It may then pass into the general circulation and be deposited in the lymphatic organs, including the spleen." After the introduction into the system, the bacteria favor the production of ptomaines, which in time act as poisons on the various tissues. The virus produces rapid hyperplasia, together with other local changes. One of its most constant effects is that upon the heat centre, producing in the majority of cases a high degree of fever.

The increased temperature, again, together with the toxic condition of the blood, is the cause of the most serious lesions found in typhoid cases; the softening of the heart muscle; the fibrous degeneration of muscular tissue; the

\*A lecture delivered at the Post-Graduate course of the University of Toronto, December 19, 1890.



general febrile consumption of the body; delirium; sleeplessness; and the typhoid conditions, although not altogether the result of high temperature, are largely influenced by it. Moreover, high temperature produces some of the most serious nervous symptoms, acceleration of the pulse, and favors rapid decomposition of the contents of the intestines. The secretion of gastric juice and stomach digestion are not so much influenced by the fever as the secretion of the salivary and pancreatic fluid, hence starchy foods are most likely to be carried through the intestines in an undigested condition and to produce increased irritation. Such is a brief and necessarily incomplete account of the way in which this poison affects the human organism.

Now the question arises, How is it to be combated? The various methods of treatment adopted may conveniently be considered under four heads: the expectant, the antipyretic, the antiseptic, and, lastly, the specific. By the expectant method is meant the placing of the patient in the most favorable position to withstand the ravages of the disease, and to allow the fever to run its course. To accomplish this he is placed in bed in a cool room, to which abundance of fresh air is admitted. The diet is of a liquid character, and such as to be easily digested, being restricted almost altogether to milk, when that form of nourishment is well borne. The skin is kept in a healthy condition by daily sponging with tepid water, and every deviation of the bodily function is at once looked after. Excessive diarrhoea is checked, as it would be in a healthy person; sleeplessness is overcome by the administration of opiates. At the same time the strength is kept up by nourishment, and, if necessary, stimulants are used to support the flagging energies.

This method has been many years in existence, and has still many followers. That it is a great improvement upon the heroic treatment adopted in the early part of this century, and that through it we have been able to study the natural history of the disease, will be agreed to by all. We may also safely assert that in our present state of knowledge no better treatment can be adopted for mild cases. The question however comes up: In addition to these measures, excellent in themselves, and to be adopted in all cases, cannot something further

be accomplished in the management of the more severe forms of this disease? The fact stares us in the face that, according to European statistics, under the expectant treatment there is a mortality of about 20 per cent. in all cases. Within the last twenty-five or thirty years, some physicians, recognizing the fact that many of the most deleterious effects upon the human body were the result of high fever, have by various methods attempted to reduce the temperature, and this has led to the antipyretic plan of treatment. There are two ways of carrying out this method: (1) by the application of cold to the body, and (2) by the administration of drugs which are known to have a positive effect in reducing temperature. In the latter part of the last century the method of reducing temperature by the application of cold was adopted to a limited degree by some physicians. In 1821 the Priesnitz mode of treatment was introduced into Europe by an empiric who, although not a scientific man, was largely endowed with shrewd common sense. This treatment by cold packs was for a time very fashionable, and in many forms of disease; in cases of fevers, among others, it seems to have been quite successful.

To Dr. Brand, of Stettin, belongs the honor of first adopting and actively advocating the cold bath treatment for typhoid fever. His earliest contribution upon this subject appeared in 1861, and since that time many articles have appeared from his pen. In the *Wiener Medicinisch Wochenschrift* of 1872 he made the assertion that no patient with typhoid fever will die if this mode of treatment is adopted from the very commencement of the disease, an assertion which certainly appears to be borne out by his statistics of private practice.

This system was introduced into France by Glenard, who when a prisoner in Stettin, during the Franco-Prussian war, noted the excellent results of Brand's method, and who, when he returned home to his native country, introduced it into his own practice. Recently some of the most enthusiastic followers of Brand have been French physicians.

In 1880 Dr. Cayley spoke very favorably of the cold bath treatment in the Croonian lectures of that year. Shortly after 1880 powerful antipyretic drugs were introduced, and have since that time been largely used in the reduction of

temperature. Within the last two or three years, however, a marked tendency to return to the cold water treatment in some of its forms has been evinced. There are four or five principal methods of applying cold, viz., sponging, sprinkling, the application of packs wrung out of ice water, coils, the ice pack, and cold baths. Cold sponging has been perhaps more widely adopted in this country than any of the other forms, and has been found, in some instances, a very effectual method of reducing the temperature. In many cases, however, this method has but little effect. The temperature is either but slightly influenced, or if it falls a degree or so, it rises again rapidly. The application of the pack of cold ice cloths, or of ice itself, is a much more effectual measure. Both methods have been largely used in the Toronto General Hospital during the past four or five months. The rule has been, when the temperature rises above  $103^{\circ}$  to use first the ice water pack, and if that was not successful, the ice pack. They are applied to the lower part of the chest, extending over the whole abdomen. The ice packs are applied to the abdomen alone. In employing this method care should be taken to see that the pack does not remain on after the temperature had fallen below  $100^{\circ}$ . I have not in any case observed shock to the nervous system, or any other evil effect from the pack when used in this way. In using the ice, I have the nurse remove and reapply it every fifteen or twenty minutes, so as to allow the skin to react. There is one circumstance connected with the application of the ice pack which might be mentioned here, and which will explain the reason for its frequent removal. The integument immediately beneath the pack becomes very cold, the capillaries are contracted, and the blood does not circulate freely through the part, and, consequently, the cooled blood does not readily pass through the system. Of course, in the deeper parts of the abdomen the blood is more readily cooled. As will afterwards be shown, this disadvantage is done away with in the cold bath system by the vigorous rubbing of the surface of the body. We have also thought it necessary to avoid all wetting of the bed, which can only be done by the free use of the McIntosh cloth.

I have also seen good effects from the use of the ice water coil or pad when placed over the

chest and abdomen. The latter has the advantage of dryness and consequent comfort. The treatment by cold baths I assisted in carrying out under the direction of my senior physician when a member of the medical staff of the German army in the campaign of 1870-71. It was then introduced as a regular mode of treatment of typhoid in many divisions of the army. The statistics, by the way, of the Franco-German war are most strikingly in favor of the cold bath treatment. Among the cases treated by the ordinary methods then in vogue, there was a mortality of from 25 to 40 per cent., while among those treated by Brand's system, there was a mortality of from 4 to 12 per cent. Owing partly to the introduction of antipyretic drugs, and partly to the great difficulty of introducing such a heroic form of treatment, I have not since made use of it.

It is a plan which cannot easily be carried out in private practice, and even in hospitals the amount of work given to the attendants is often greater than can be accomplished. A bath of the ordinary size, which will allow the patient to be fully stretched out, and which can be purchased for eight or ten dollars, is all that is necessary. It should be placed at the side of the bed and filled with water at a temperature of from  $65$  to  $70^{\circ}$ . A sheet may be stretched over the top of the bath, and the patient placed upon it, and slowly allowed to sink down into the water. In the New York and Bellevue Hospitals, where, owing to the courtesy of Dr. Peabody, I have recently seen the method employed, the sheet was dispensed with, and the patient taken by attendants and at once put in the water. A half-ounce of whiskey is given to the patient before the bath, and hot milk is freely administered when he is taken out. The time for the bath varies from seven to fifteen minutes, according to the effect produced. While in the bath the patient is vigorously rubbed by two strong men, and ice water is occasionally poured on the head by a third attendant. The temperature generally falls for half an hour or so after removal from the bath, sometimes to a point below normal. It is better that the patient who takes a bath for the first time should not remain in longer than seven or ten minutes, as some are much more easily affected than others. After the bath the patient remains in

bed until the temperature again rises to 103°, when another is given. Rigors of a severe character often attack patients after the bath. In all cases there is more or less shivering. These symptoms do not appear to indicate any grave constitutional disturbance. The baths may be repeated eight times in the twenty-four hours, if necessary, but not oftener. Many cases require this number at first to keep the temperature down, but in a few days a less number is needed.

The immediate effect of the bath is to quicken the pulse, which, however, soon becomes slower and fuller. Many patients who dread this mode of treatment at first, will soon ask for the baths on account of the comfort they feel from them. Baths are contra-indicated in fleshy people with weak hearts or a tendency to bronchitis. They are also contra-indicated in cases of intestinal hemorrhage, peritonitis, or threatened perforation, because in such condition it is necessary to keep the patient as quiet as possible. It was at one time supposed that the baths produced a tendency to intestinal hemorrhage by congesting the mucous membrane of the bowel. Experiments upon the lower animals, however, have proved that immersion in cold water blanches the mucous membrane of the intestines, and could not therefore increase the danger of hemorrhage.

Baths are also contra-indicated in nervous cases, when they are much dreaded.

The pneumonia and bronchitis which directly result from the typhoid fever do not contra-indicate the use of baths; in fact the benefit obtained in such cases has been most marked. In cases also in which the pulse is rapid, and there is a marked typhoid condition, a cold bath has often a very bracing effect.

The statistics obtained since the introduction of this plan of treatment are as follows, quoted largely from Dr. Cayley's Croonian lectures:

In Basle, under the expectant treatment, there were out of 1710 patients 469 deaths, a rate of 27.3 per cent. Under a partial antipyretic treatment there were out of 982 cases 159 deaths, a rate of 16.2 per cent. Under the cold bath treatment, out of 1483 patients there were 130 deaths, a rate of 8.8 per cent.

|                           | No. of Patients. | Deaths. | Per cent. |
|---------------------------|------------------|---------|-----------|
| Under expectant treatment | 330              | 51      | 15.4      |
| Under cold baths - - -    | 160              | 5       | 3.1       |

| IN STETTIN—                   |   |   | No. of Patients. | Deaths. | Per cent.      |
|-------------------------------|---|---|------------------|---------|----------------|
| Expectant treatment - - -     | - | - | 1591             | 405     | 25.6           |
| Cold baths - - - - -          | - | - | 121              | 5       | 4              |
| PERCENTAGE OF DEATHS—         |   |   |                  |         |                |
|                               |   |   |                  |         | Before. After. |
| Bartels and Jurgensen - - -   | - | - | 15.40            |         | 3.10           |
| Liebermeister and Hagenboch - | - | - | 16.10            |         | 8.80           |
| Pfeuffer and Lindwurm - - -   | - | - | 13.20            |         | 5.40           |
| Hospital in Heidhausen - - -  | - | - | 13.50            |         | 4.80           |

#### MORTALITY IN THE PRUSSIAN ARMY, UNDER COLD BATH TREATMENT,

According to the years, from 1874 to 1880.

| Year.   | Patients. |    | Deaths. |    | Per cent. |
|---------|-----------|----|---------|----|-----------|
| 1874 .. | 2735      | .. | 329     | .. | 12.0      |
| 1875 .. | 3620      | .. | 408     | .. | 10.9      |
| 1876 .. | 2747      | .. | 298     | .. | 10.8      |
| 1877 .. | 2081      | .. | 206     | .. | 9.8       |
| 1878 .. | 2112      | .. | 190     | .. | 8.9       |
| 1879 .. | 1741      | .. | 163     | .. | 9.4       |
| 1880 .. | 2534      | .. | 226     | .. | 8.9       |

The previous mortality under ordinary treatment had been 25 per cent. This table also shows a gradually diminishing rate of mortality year by year, a fact which is probably due to greater attention to detail in carrying out the system. This, like any other active form of treatment, must be conducted with care and skill if good results are expected, and if carelessly carried out much injury may ensue.

Brand's latest statistics give the following percentage of mortality:

|                          |               |
|--------------------------|---------------|
| Cases in family practice | 1.0 per cent. |
| Military hospitals - - - | 3.4 „         |
| Consultation cases - - - | 3.4 „         |
| Civil hospital - - - - - | 5.0 „         |

The general result shows that out of 8141 patients treated by cold baths there were but 680 deaths, a rate of 7.4 per cent., while under all other modes of treatment, including other forms of antipyretics, the rate has been over 16 per cent.

It is then conclusively shown, so far as it can be by statistics, that the mortality under the cold bath treatment is lower than under any other method, and much lower than under the expectant plan.

The vigorous rubbing constantly kept up by the attendants is a very important element in the process, and that thereby the bath not only lowered the temperature, but acts also as a general tonic to the nervous system. The rubbing at the same time prevents the contraction



of the capillaries of the skin, thus improving the circulation and allowing the cooled blood to go to all parts of the system. If the temperature can be sufficiently reduced by the application of the cold pack, and remains so for some hours, there is in my opinion no necessity for the cold bath. There are, however, cases in which even the pack or cold coil will not reduce the temperature more than a degree or so, and when these are removed the temperature rises again rapidly. I have had two or three such cases in the hospital recently, in which I would now confidently advise the use of the cold bath. In such severe cases the baths should be given early in the disease, so that the patient may be guarded against the effects of a continued high temperature. One great disadvantage has already been mentioned, they cannot be easily given in private practice, as at least three attendants are required, as well as the surrounding convenience for giving them.

Tripier and Bouvret state many instances where the treatment was carried out in villages and country districts near Lyons. In one village there were twenty cases of typhoid; the first nine were treated on the expectant plan, and of these four died: the other eleven were treated by cold baths, and of these none died. In another town—St. Germain—there were 41 cases treated by cold baths, with no deaths. Taking all the recorded cases which occurred in the neighborhood of Lyons under the cold bath treatment, there was a mortality of 3.62 per cent.

Another drawback to the cold bath treatment is the frequent disturbance of the patient. We have always thought that rest of mind and body was a cardinal point in the management of typhoid, while under this system the patient may be taken out of bed and placed in a bath six or eight times a day. In Berlin this is remedied by placing the patient in a sort of hammock, which can be easily raised and lowered.

At this point I would like to refer to the statistics of our own hospital, where the treatment has been largely of an expectant character. The percentage of deaths for the various years is as follows:

| Year.   | Per cent. | Year.   | Per cent. | Year.   | Per cent. |
|---------|-----------|---------|-----------|---------|-----------|
| 1878 .. | 20.0      | 1883 .. | 14.4      | 1888 .. | 13.7      |
| 1879 .. | 13.6      | 1884 .. | 14.0      | 1889 .. | 15.3      |
| 1880 .. | 19.6      | 1885 .. | 9.6       | 1890 .. | 12.3      |
| 1881 .. | 12.5      | 1886 .. | 10.8      |         |           |
| 1882 .. | 15.7      | 1887 .. | 14.4      |         |           |

The average percentage of deaths, 13.4. Total number of cases, 1381: deaths, 186; per cent., 13.4; died within six days of admission and therefore not influenced by hospital treatment, 64; deducting this number from the total we have an average percentage of 9.2. It will thus be seen that the statistics in our own hospital, under the ordinary form of treatment, have been very much better than the continental hospitals under the same system, and almost as good as some of them under the cold bath treatment. It would appear from this that we have here a milder class of cases, which do not require the cold bath treatment to the same extent.

In order to form an estimate of the number of cases having a persistently high temperature, I had an examination made of a hundred temperature charts, with the following results: One reached 106; ten, 105; thirty-four, 104; thirty-eight, 103. The one whose temperature rose to 106 reached this point but once; the ten reached the temperature of 105 but once; of the thirty-four whose temperature rose to 104, in twenty-six this occurred but once, the remainder—two, three, or four times. Of the whole number of cases, in at least forty-five the temperature rose to 103 more than twice.

From my experience in the hospital I do not think that in more than ten cases out of the hundred there would exist a continuous high temperature that could not be controlled by cold sponging, cold pack or coil, and that, therefore, there would not be a larger number of cases requiring the cold bath.

The principal drugs which have been recommended for internal administration to reduce temperature are quinine, digitalis, salicylate of soda, antipyrin, antifebrin, and phenacetin. Quinine has a very uncertain action, often even in large doses it will not reduce the temperature to any great degree. The cerebral symptoms produced by large doses, as well as the temporary deafness, are unpleasant. Salicylate of soda has a more certain action, and has perhaps been too much overlooked since the advent of newer and more rapidly acting drugs. It is doubtful if in moderate doses it has any depressing effect upon the circulation, and it has the advantage of being also an antiseptic agent. The lessening of the heart pulsation after the administration of the salicylates is probably due to the



lowering of the temperature rather than to the direct effect of the drug; it does, however, depress the motor nerve centres. Digitalis was at one time thought to be a very effective antipyretic, but its action upon the heart, particularly in some forms of degeneration, is such that sufficiently large doses to produce an effect on the temperature cannot be given. Antipyrin and antifebrin have been for the past five or six years the most extensively used drugs for antipyretic purposes in typhoid fever. Antipyrin is a very effective agent, lowering the temperature in fever often from two to twenty hours at a time. It has the disadvantage, however, of producing in some patients alarming symptoms of collapse when given even in moderate doses. This appears to be on account of an individual idiosyncrasy which cannot be made out previous to the administration of the drug. I well remember a case illustrating this point which occurred in the hospital a few years ago. The patient, a strong, healthy girl, was suffering from an average attack of fever. Antipyrin was given in two ten grain doses. The temperature rapidly fell below normal, and the pulse, which had previously been under 100, went up to over 120 in the minute; it was at the same time weak and compressible, and the patient went into a state of partial collapse, from which she could only be rallied after some hours.

I was shortly afterwards called to see a case in which a somewhat similar effect was produced by a 15 gr. dose of antifebrin. I am confident that I have observed in several cases a distinctly lower power of resistance on the part of the system to the inroads of the disease, and that patients have not recovered so rapidly or satisfactorily after the administration of antipyrin. The theory that these drugs diminish the power of oxidation in the system would also be an argument against their use.

Taking everything into consideration, I do not think Dr. H. C. Wood speaks too strongly when he says: "I believe that cold baths are much safer and more efficient than are antipyretic drugs." When we consider, then, the treacherous character of such antipyretics as antipyrin and antifebrin, that in some cases they do not succeed in reducing the temperature, that they have a depressing effect upon the system which should in every way be supported to over-

come an exhausting disease, and when, moreover, we have a much more certain, a much safer, and a much more controllable method of reducing the temperature by the application of cold, it is questionable if we are justified in continuing the use of such drugs for antipyretic purposes. It must, of course, be understood that when there are no means available for the proper application of cold, it is better to give these drugs than to allow the patient to suffer from the effects of a continuously high temperature. A case came under my observation not long ago, in which the temperature ranged between 103 and 105, and the administration of antifebrin and phenacetin in large doses had no effect, nor had the cold coil. The cold baths were ordered, and the temperature was effectually reduced, and the patient recovered.

Under the third head, we shall now go on to speak of the antiseptic method. Little doubt can exist in the minds of physicians that typhoid fever is a germ disease, and after the excellent demonstration of Prof. Vaughan, we at least who have had the privilege of seeing and hearing, must be convinced of that fact. It is almost certain that in most cases the poison is swallowed and taken up by the lymph follicles, and, moreover, that the poison exists in its greatest intensity in the small intestine. At the same time, owing to the high temperature, decomposition of the intestinal contents takes place more rapidly in the intestine. If, then, we can by any means render the contents of the intestines aseptic, we prevent the inroads of poisonous matter into the system; in fact, we attack the enemy while yet in his camp, and place the patient in a safer and better condition. Such agents have been largely used by French physicians, and statistics would appear to demonstrate their usefulness.

In the Toronto General Hospital, we have used such agents as thymol and bismuth, salicylate and B. naphthol. My colleague, Dr. McPhedran, who used the thymol, is of opinion that the general effect has been favorable; the temperature did not rise so high, and the constitutional disturbance was generally less than in cases where the drug was not given; the tympanites was markedly less. In some cases the remedy had to be discontinued, as it disagreed with the stomach. I may make the same asser-

tion with regard to the salicylate of bismuth. The reason for my choosing that drug was (1) its acceptability to the stomach, and (2) that on account of its only partial solubility, it would be more likely to pass into the small intestine. It was given in five grain doses every four hours. I found it to have a decidedly antipyretic effect, as shown by some of the temperature charts. In some cases the temperature fell two or three degrees, and did not rise again throughout the whole course of the disease. I did not notice any unfavorable action upon the heart, and in only one or two cases was the stomach affected.

The antiseptic agents which have been used are naphthaline, B. naphthol, thymol, iodoform, and bismuth salicylate. According to Bouchard, naphthaline, salicylate of bismuth, and iodoform, are more or less absorbed into the system, and cannot therefore be used in sufficiently large doses without producing poisonous effects. B. naphthol is not so absorbed, and passing through the intestine unchanged produces an aseptic condition of the contents.

Dr. Clark, in a recent number of the *London Practitioner*, gives his experience in the use of this drug: he gave it according to the following formula: B. naphthol, grs. xx.: tinct. aurantii, ʒii.: syr. lemon, ʒp.; muc. acacia, ʒiii.: aqua ad., ʒvi.: ʒi. to be given three times a day. After the administration of this remedy the stools became much less offensive, and the cases seemed to run a milder course; convalescence, too, was more rapid. The same objection, however, was noticed in the use of this remedy as with thymol, viz., that it caused in some cases a derangement of the stomach. Recently B. naphthol in combination with salicylate of bismuth has been given to patients in the hospital.

There is a great future for the antiseptic method, but we have yet to find an agent which, while effective in destroying the germs in the intestines, will also be soluble and innocuous to the mucous membranes of the alimentary tract.

The treatment of typhoid fever by specifics has been taken up at different times with varying success. Quinine, calomel, and iodine, are the principal remedies used under this head.

It is now generally admitted that quinine has no specific action in this disease, except malarial. Calomel probably acts on account of its antiseptic qualities as well as by any specific effect.

Liebermeister gave iodine, in the form of iodide of potassium, to the extent of from 20 grains to a drachm in the twenty-four hours. The drug did not produce any immediate effect whatever, either upon the pulse or temperature, but, as will be seen by the accompanying tables, the mortality was much diminished in those who had been put under this treatment. He also gave calomel to a number of patients in 7½ gr. doses three or four times a day. In these there was also a considerable lessening of the mortality. Out of 839 cases treated by Liebermeister, there were

|                             | Patients. | Deaths. | Per cent. |
|-----------------------------|-----------|---------|-----------|
| Non-specifically treated .. | 377       | 69      | 18.3      |
| Treated by calomel .. ..    | 223       | 26      | 11.7      |
| Treated by potass. iodide . | 239       | 35      | 14.6      |

Leaving out all cases which died within six days after admission. Liebermeister had the following results:

|                              | Patients. | Deaths. | Per cent. |
|------------------------------|-----------|---------|-----------|
| Non-specifically treated ..  | 355       | 47      | 13.2      |
| Treated by calomel .. ..     | 216       | 19      | 8.8       |
| Treated by potass. iodide .. | 229       | 25      | 10.9      |

These statistics would appear to show a decided benefit from the use of the drugs.

I am quite convinced that we are on the eve of great discoveries in medicine, and these will be on the line of specifics. The treatment of tuberculosis recently established by Prof. Koch, a discovery of which we of this province (owing to the generosity of our Vice-Chancellor) will shortly reap the full benefit, marks an event in therapeutics. It is our hope and expectation that Prof. Vaughan, or some other scientist who has been studying the etiology of this disease, will soon be able to give to the profession a remedy which, when hypodermically injected, will either prevent the multiplication of germs or destroy those which already exist.

Stimulants are recommended by some authorities from the commencement of the fever, on account of the antipyretic action of the alcohol, and its supplying material for ready oxidation. I have not been in the habit of giving it until the latter stages of the disease, more particularly if the patient is suffering from septic fever, the result of absorption of poisonous matter from the intestines. In such a condition very large quantities of alcohol may be given with benefit. Recently a patient whom I saw in consultation rallied after the pulse became almost impercept-

ible at the wrist, and he was supposed to be *in articulo mortis*. An ounce of alcohol, diluted with water, was given every hour, together with ammonia and digitalis. The patient made a good recovery.

Milk, pure and simple, is the best form of diet for typhoid patients. It should be given in moderate quantities, frequently repeated, so as to prevent the formation of dense curds in the stomach. The addition of lime water or beef peptonoids is often an advantage, and from the favorable reports we have of the use of sterilized milk in the diarrheas of children, that form ought to be specially adapted for typhoid cases. Many patients who at first think they cannot take milk will after a time find no difficulty in digesting it. Care must be taken not to give nourishment in larger quantities than the stomach will digest, or than is necessary to support the system. If too much is given, the intestines become loaded with matter undergoing decomposition, irritation follows, and increase of tympanites, both unfavorable to the progress of the disease in the bowels. In a few cases milk cannot be given, as it will not agree with the stomach; then animal broths, beef peptonoids, etc., must be substituted.

The question of when to resume the use of solid food is often one of importance. As a general rule, we allow solid food in the hospital after the temperature has been normal for a week. In severe cases, however, when there has been serious bowel trouble, a longer time is allowed to elapse before the resumption of solid food. Boiled custard, lightly boiled eggs, and scraped beef are first given, to be afterwards followed by the starchy foods. There are many cases in which we could commence the use of solid food earlier if we were only certain of the condition of the intestines.

A case is mentioned by Dr. Cayley of a boy who was taken from the hospital by his mother because, according to her ideas, they were starving him. She gave him ordinary food, and, contrary to expectation, the boy became strong very much more rapidly than if he had remained in the hospital. A similar case occurred in our own hospital, but with the opposite result. A boy was taken out when convalescent and given ordinary solid food: perforation took place and death ensued.

Notwithstanding the fact that we have no accurate idea of the condition of the bowels, and while believing that it is by far the best policy to err upon the safe side, it has occurred to me that in some cases we allow the patient to suffer by withholding solid food for too long a time. We might try earlier by giving small quantities of such food as will be digested in the stomach: scraped beef, poached eggs, etc., to test the capacity for ordinary food. I am convinced that we too often ascribe the blame for relapses to errors in diet. We find quite as many relapses where there has been no changes made in the food; and, on the other hand, grave errors have been committed which have not been followed by relapse. We must recognize the fact that relapses are, under any circumstances, frequent in typhoid fever.

Tympanites, which in the earlier part is due to paralysis of the muscular coat of the intestine, together with increased decomposition, and in the latter stages is due in addition to intestinal lesion and peritonitis, is, when extensive, a very grave symptom; it impairs the respiratory and cardiac movements, and favors the occurrence of hemorrhage. The local application of cold will frequently relieve it when the temperature is high. The internal administration of turpentine, or one of the antiseptics already mentioned, may be necessary.

The introduction of a rectal tube was found of very great service in two or three cases in the hospital this fall. The tube is of more use when there is little or no peritonitis. When all other means fail and the symptoms are urgent, it may be necessary to pierce the bowel with an aspiration needle.

Flint recommends the administration of frequent drachm doses of sulphate of magnesia when other remedies are found to be useless. The treatment adopted in our hospital for hemorrhage is the internal use of turpentine and opium. The latter drug has almost a specific action when there is extensive sloughing of the intestinal walls, acting in the same way as in sloughing phagadæna. For the headache, which is sometimes a very troublesome symptom during the first week, I have found phenacetin to be the best remedy.

According to statistics, relapses occur in from 1.4 to 11 per cent. of cases. They are more



frequent when any form of antipyretic treatment has been adopted, and this is generally admitted to be one of the drawbacks to such measures. As a rule, however, relapses are not fatal, and as the general results are so much better under antipyretic treatment, this drawback is not of any great account; besides, it may possibly be that the cases which have relapses under antipyretic treatment, would probably have died under expectant measures. A relapse is certainly to be preferred to a fatal issue.

I would not wish to conclude without bearing testimony to the great value of skilled nursing in the management of typhoid. To give the patient the best chance for recovery it is necessary that the details should be rigidly carried out by one who has a thorough knowledge of the disease. The statistics of our own hospital give ample proof of the value of trained nursing. Although the training school for nurses was opened in 1882, it was not until 1885 that it was put in thorough working order, so that the benefit to the patient was fully realized. It will be seen by referring to the percentage of mortality, and comparing the seven years which preceded 1885 with the six following years, that there was a gain of between three and four per cent. In other words, about four typhoid patients out of every hundred have been saved apparently by the introduction of a better system of nursing.

I have thus attempted to give my views on the treatment of typhoid fever, having gone over those points upon which I had some personal experience, leaving out such as are of lesser consequence, and upon which I have no personal views to offer. I will conclude with the hope that before many years we shall have such an improved sanitary condition in Toronto that an epidemic such as we have had this year may never reoccur. I also hope that for the cases which will no doubt occur occasionally we will have a form of specific treatment which shall far exceed any yet known.

### KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT.

Communicated from Berlin to the University of Toronto.

[FIRST COMMUNICATION.]

There has been a decided cessation of activity during holiday week in matters pertaining

to the Koch treatment. Patients have in many cases received short respites from the disturbing injection, and physicians have not been so anxious to demonstrate results to the few foreigners who remain. The great man has himself been off on a visit to his native town in the Hartz mountains, and has only now returned.

I had a long morning in the pavilions of the Moabit, which have been placed at Koch's disposal, and had the advantage of being one of a very few who surrounded him during his visit. It is of course much more interesting to hear the suggestions and watch the treatment of the discoverer of the remedy, who alone knows its nature, than to listen to those who are, to a certain extent, working in the dark.

The condition for the patients in the City Hospital Moabit are so very much more favorable than at the Charité that it is not surprising, even apart from the superintendence of Koch himself, that the results are more favorable. It is the more to be regretted that the stream of foreign physicians has chiefly been directed to the Charité, the older buildings of which by no means come up to the requirements of the modern hospital.

The Moabit, which is the second largest of the Berlin hospitals, is built on the pavilion system, with separate administrative buildings, and accommodates some 900 patients in 30 different pavilions; 150 beds have been placed at Koch's disposal, and the tubercular patients are now concentrated in the pavilions containing these.

The surgical section is under the direction of Prof. Sonnenburg, the medical under that of Dr. P. Guttman. Both of these gentlemen retain the supervision of the special pavilions in question, carrying out the wishes of Prof. Koch, and thus enjoying every opportunity of absorbing the opinions he forms as to the progress of his remedy.

I propose to devote this letter to summarizing the latest deliverances of these gentlemen. It will be remembered that Koch indicated his belief that his remedy would be especially useful where surgical interference could assist the healing process by removing the necrosed tubercular tissue. Following up this hint, Prof. Sonnenburg has now operated on several patients with advanced phthisis, with the view of



establishing an opening through which the necrosed contents of cavities might find easy access to the outside. Several suitable cases presented themselves for this operation—suitable because the cavities could be definitely localized and the strength of the patients was still good. They had not been previously subjected to the Koch treatment: whether this should follow or succeed the operation is a matter for the future to decide.

Especially, cases with cavities in the apices seemed favorable; in these, adhesions occur as far down as the second rib, and consequently the first intercostal space is the easiest mode of access to such. But it does not suffice: it is necessary to resect as much of the first rib as is uncovered by the clavicle, care being taken to avoid wounding the intercostal artery by dissecting off the periosteum. The pleura having been thus exposed, a trochar is thrust through it into the cavity, and then a red-hot paquelin is introduced along the line of puncture, and the lung-tissue carefully burnt through to the cavity. No bleeding occurs; the extent of the cavity is carefully sounded, and the opening to it made freer. It is not necessary to repeat this, because the spontaneous discharge of the burnt tissue enlarges the opening sufficiently. The lung-tissue nevertheless may be burnt painlessly if it should be necessary to open into smaller subsidiary cavities; while the touching of the pleura, on the other hand, is painful. A plug of sterilized gauze and a dressing of sterilized wadding, with a gauze bandage, were employed.

Very little disturbance followed the operation, and minimal injections of lymph were made as soon as a normal temperature was reached. Comparatively little reaction was observed, and the doses have now reached a centigramme and upwards. Under the treatment the walls of the cavities clean themselves, small insular granulating surfaces appearing, which eventually become confluent. The final course of the operative interference will be looked forward to with interest. In the meantime, Prof. Sonnenburg considers the prospects sufficiently favorable to justify the new operation.

In one of the cases matters were complicated by the absence of adhesions; right pneumothorax occurred on operation; the cauterisation

along the line of puncture was therefore left incomplete; but adhesions formed on the seventh day; the pneumothorax gradually diminished, and on the eleventh day a free opening was formed to the cavity by the discharge of the cauterized tissue.

I have already informed you of the results obtained by Director Guttmann at the Mcabitt. A recent lecture delivered before the Hufeland Society discusses his further experiences, especially in three directions—the diagnostic value of the lymph, its therapeutic value, and the results obtained in pulmonary cases.

With regards to the first, he asks, What dose must one give to be satisfied as to the presence or absence of pulmonary tuberculosis? The circumstance that such cases frequently do not react to 1 mg., nor to a gradually increased dosage, makes it desirable to begin with 3 mg.; and if the patient does not react, to increase at once to 10 mg. If there is then no reaction, tuberculosis may be considered as excluded.

An interesting example is recorded of the delicacy of the reagent. A doctor making a cover-glass preparation of sputum wounded his finger eighteen months ago, with the result of leaving a small induration half the size of a pea, which, however, was completely latent; an injection of 3 mg. produced a slight general but a violent local reaction, which gradually disappeared.

With regard to the second point—the lymph as a therapeutic agent—he advises starting out with the 1 mg. dose, and repeating the same on the third day if there has been a reaction, increasing it to two if there has been none. It is necessary to wait till the third day, because the reaction is often delayed till the second. He is inclined to interpret this delayed reaction to the absorption of the purulent contents of cavities, the bronchioles leading to which have been occluded by the local reaction, and the internal pressure within which has been increased in consequence.

After a dosage of 6 mg. has been reached, the following doses may then be increased by 2 mg., and when 10-15 mg. has been arrived at by 5 mg., always providing that no unpleasant symptoms indicate otherwise. In this way, after four weeks, the dose may reach 20-30 and even 40-50 mg.; if then the patient reacts only slightly

the dose is increased by 10 mg. till 1 decigram, 100 mg., (the maximum) is arrived at. Decigram doses, however, should only be exhibited in intervals of four to five days, and they are, of course, given in the form of the ten per cent. solution of the lymph.

With regard to the results obtained at the Moabit, Gutmann states that (1) the sputum has become mucous instead of purulent in many cases; (2) the amount (which is recorded graphically on the Moabit charts) has diminished in some; (3) the bacilli (very carefully investigated in the clinical laboratory under Prof. Ehrlich's direction), although at first increased in number, shows a tendency to diminish or even disappear; (4) in two cases the bacilli have been observed to exhibit changes of form

not the involution forms referred to in my previous letters, which occur even without injection, but a dissolution into little heaps of coccus-like bodies; (5) the weight of the patients may decrease during the first week, but improves afterwards, except such cases where there is a constant febrile reaction to the treatment; (6) physical investigation indicates improvement in the diminution of rales, and the clearing up of dullness.

He concludes by expressing the opinion that long continued observation will be necessary to establish the action of the lymph in various stages of pulmonary tuberculosis; this observation must be regarded as the special function of hospital physicians, for it is only after the patient is able to stand some centigrams or a decigram of the lymph without reaction that it is allowable to treat him as an outside case—returning to the hospital every week for an injection.

In my next letter I hope to give you some further particulars of the cases in the Moabit.

[SECOND COMMUNICATION.]

The topic of Berlin just now is Virchow's address to the medical society on Wednesday night, in which he summarises the results of *post mortem* observations made in his institute in patients who died during treatment with the Koch cure. Of these, twenty-one came under his observation in the Charité until the end of December, and seven since, while he has also had submitted to him preparations from a num-

ber of other autopsies made outside the Charité. He premises that his observations must necessarily be very different from clinical ones, as they deal with parts entirely inaccessible during life.

Of the twenty-one cases referred to, sixteen were typical cases of phthisis. One of the others, a case of tubercular meningitis, was a boy of 24 years, who died after four injections, amounting in all to 2 mg. In this case the hyperæmia of the pia and cortex was such as he never remembered to have seen before. He therefore considers that also in internal organs the same hyperæmia exists as can be observed in more superficial parts. The tubercles in the arachnoid did *not* exhibit any retrogressive processes: they were probably metastatic from the lungs, in which some older caseo-pneumonic spots were seen, as well as recent inflammatory changes.

Similar hyperæmia and swelling were observed elsewhere in the body in other cases: the internal surfaces of old cavities, *e.g.*, were extremely red and injected with blood, which sometimes even was found within the cavities; and one case, with rectal fistula and ulcers of the colon, succumbed to hemorrhage from one of the old ulcers, which Virchow evidently attributes to the action of the injection.

The hyperæmia referred to, also, he considers not to be of that temporary kind which may be expected soon to subside, but to be accompanied by positive inflammatory processes and active proliferation, especially in the borders of ulcers and in the lymphatic glands nearest the affected parts. These exhibit a swelling, especially of the central parts, which indicates a rapid proliferation of the cellular elements of the medulla, and which accounts for the leucocytosis frequently noticed, and infiltration of diseased parts, especially tubercles, with white blood-cells. The swelling may in itself be dangerous, in the larynx, for example, where it may take on a phlegmonous character.

Among the fatal cases of ulcerative phthisis, most offered extensive recent changes in the lungs as well as inflammation of the pleura. The changes in the lungs belong to two categories, caseous hepatisation and catarrhal pneumonia. One especially noticeable case belonging to the former category was of a male

patient of 33 years, with indurated apex of old standing, who had had six injections. These were interrupted four weeks before death on account of infiltration of the lower lobes of the lungs. *Post mortem*: Hardly any lung parenchyma remained unaffected by the caseous process. In all, five of the sixteen cases referred to exhibited changes of this character.

With regard to the pneumonia observed after injection, it departed from the ordinary catarrhal type inasmuch as it recalls more a phlegmonous condition: the lung is flabbier than in the caseous infiltration, and the affected parts may become so rapidly softened in spots as to remind one, in this respect, of gangrenous broncho-pneumonia. Seven out of the sixteen cases exhibited this diffuse flabby hepatisation as distinguished from the caseous variety.

Not only does Virchow speak as above of pneumonia directly caused by the injection, but suggests (with a certain amount of reserve) that also new tubercles are formed in consequence thereof. He recalls the eruption of such in the larynx, which have been generally interpreted as latent tubercles; but without criticising this interpretation, observes that he has found submiliary tubercles in considerable numbers in such places (the various serous membranes, even the epicardium) as make it extremely probable that they are recent; at least they were quite unaffected by the injections. He considers such tubercles to be unquestionably of metastatic origin, brought about by the mobilization of the bacilli under the influence of the lymph, and thinks that the hepatisation of the lower lobes of the lungs may be accounted for by the patients not being in a condition to expectorate all the products of the softening changes taking place elsewhere in the lung, and warns against the treatment of patients who are not sufficiently strong to get rid of such products.

Virchow recognizes that the lymph attacks tubercular tissue, but is unable to explain why the submiliary tubercles referred to are more resistant. He has seen larger tubercles also of the solitary order which appeared similarly resistant. But he does not deny the necrotic changes in the tubercular ulcers in the respiratory and intestinal tract; indeed he fears that the latter may lead to perforation, and cites two illustrative cases.

I need hardly say that Virchow's lecture created great excitement, and everyone looks forward with interest to next Wednesday, when someone is sure to take up the cudgels for Koch. You have already gathered that these cases which have come under Virchow's observation are none of them of the kind which Koch himself would have considered suitable for treatment. He has always urged that in pulmonary consumption it is the early cases in which he looks forward to the success of his curative treatment, and I have already emphasized the fact that much greater care has been exercised in the Moabit in the selection of cases for treatment than in the Charité.

I shall take care to inform you in my next letter of the feeling at the next meeting of the Medical Society.

#### THE KOCH CURE IN LONDON, ENG.

BY DR. J. A. GIBSON, LONDON, ONT.

[Communicated to Dr. George Hodge, London, Ont., and kindly forwarded by him to THE PRACTITIONER.]

During the past three months, the world at large has been intensely interested in the injection of tubercular subjects with Koch's lymph. The medical men of London do not seem to be so sanguine as they were at first. Still, until it has had a year's trial, they do not care to express a decided opinion.

Some cases certainly seem to have received benefit, others are much the same after treatment as before: all are agreed on this, however, that only in the early stages of disease of the lungs can we look for permanent benefit from the new method. There is not that rush and universal desire to be treated in England which one reads of in Germany, and the people seem to be somewhat afraid of it. Of all classes of cases, lupus, or tuberculosis of the skin, shows most decided signs of improvement. Diseases of joints seem also very amenable to treatment by this method. So far, it has been least successful in cases where the disease is confined to the lungs. The cases mentioned are taken from some of those undergoing treatment at the Hospital for Sick Children, Great Ormond St., and London Hospital.

For injection, the original fluid is diluted one hundred times with distilled water, and to this



is added  $\frac{1}{2}$  to 1 per cent. of carbolic acid to keep it from spoiling. By thus diluting it, less trouble is experienced in measuring out the small doses which are usually used to commence with. The syringe is prepared by passing absolute alcohol through it; and as the alcohol causes the fluid to coagulate, it is washed out with carbolic acid and water just before using. The spot chosen for injection is usually between the shoulder-blades. The effects of the injection are, as a rule, felt first about twelve hours after, and the initial symptoms are a rise of temperature and an increased rate of the pulse, which grows very weak, while the breathing becomes quicker. If it is a case of lupus or joint disease, the part becomes red and swollen, and there is pain in the joint. A rather peculiar feature is that there is a cough developed, although previous to the injection there may have been no symptoms. The cough comes on about the second or third day. An eruption resembling measles is also noticed in a few days as a result of the treatment. In a few cases the skin peels off, as in scarlet fever. The reaction is less marked as the number of injections increase. They cause some discomfort and a good deal of restlessness until the reaction has subsided. The reaction varies in intensity according to the dose given, which is usually 2 to 3 milligrams for an adult, and also to the amount of tubercular tissue present. If it is a case of lupus, the part swells and becomes covered with pustules, which discharge, forming a scab; this after a time drops off, and leaves a clean surface underneath.

The following cases will show the result of three weeks of treatment:

Mary A., aged 5, has suffered for two years from disease of the hip. There is a good deal of pain.

On Dec. 10th, at 10 a.m., A. M. was injected with 1 milligram of fluid. At 10 p.m. the reaction commenced, and at midnight temperature was 102 degrees and pulse 106. At 7 next morning the temperature was down again, but pulse still at 140.

On Dec. 11th, another injection was made of 2 milligrams at 10 a.m. The temperature went up to 103 and pulse 132 by 9 p.m.

Dec. 12th: Another injection; symptoms not so marked.

Dec. 14th: Again injected patient; coughed a good deal.

Dec. 15th: Injected, and more coughing.

Dec. 16th: Rash came out.

Dec. 19th: An injection of 8 milligrams; temperature rose to 100.

Dec. 23rd: Another injection; the temperature went up to 102.

So far there is no improvement, no increase of movement, no breaking out about joint, and no lessening of pain.

Rose H., æt. 7: swelling of knee for the last twelve months, and tuberculous affection of right eye and lip. She was treated at the same time and in the same manner as the previous case, with the usual reaction and some slight fullness and swelling of knee, and on Dec. 13th some pain in the knee. On the seventh day some scabs came off the lip, which now looks more healthy. There is not much change in the knee, perhaps a little increase in movement.

Horace N., æt. 2: chronic affection of knee. Result of treatment: Usual reaction, but no improvement in knee.

Robert P., æt. 3: After three weeks of treatment for superficial tuberculosis, there is no improvement.

Agnes R.: disease of hip; dose increased to 8 milligrams; no reaction and no change whatever.

Douglas G., æt. 4; spinal caries; not any improvement.

Lucy M.; strumous disease of ankle; no change at all.

John C., æt. 5: lupus the size of a fifty-cent piece; improved and more healthy looking, the usual scabs having peeled off and left a cleaner surface.

Minnie M., æt. 4: tubercular knee; marked reaction; slightly less pain in joint, but there was extension on at the same time.

Thomas W., æt. 11: injected on Dec. 11th with 2 milligrams for tubercular disease of left foot and ankle. The foot swelled and became very painful; but now, after three weeks, the ankle is less inflamed, smaller, and not so painful as before injection.

John S., æt. 16; tuberculosis of foot and ankle. This case has been under treatment for two weeks: the usual reaction, foot less painful, but otherwise the same as before.



John C., æt. 5; hip disease treated for three weeks; no change so far.

Albert I., æt. 6; treated since Dec. 11th for disease of bones of foot. This case is slightly improved.

Horace P., æt. 13; lupus of face, extending from chin to eyes. On Dec. 16th, the rash appeared for the first time, six days after treatment began. He has gone on steadily improving ever since the treatment began, and now shows marked signs of change for the better. This patient was delirious once or twice from the effects of the injections, and on the sixteenth day of the treatment there was a general desquamation of the skin over the body. His mouth, which was lessened in size by the lupus, is gradually becoming larger and somewhat more natural looking. This case has shown more improvement than any of the others, and is certainly a success so far.

It will be observed that there are no cases of disease of the lungs given, and the reason therefor is that patients with consumption show less desire to be experimented on, and consequently at the present time there are very few cases which have been injected; but I believe that, in some cases at least, the result has been gratifying as far as treatment for so short a time could indicate. Dr. Heron, of Victoria Park Hospital for Diseases of the Chest, has probably got the largest number of lung cases under his care, and no doubt will give the result of his work when sufficient time has elapsed.

London, Eng., Jan. 15, 1891.

## THE KOCH TREATMENT IN BERLIN.

BY DR. J. D. WILSON, LONDON, ONT.

[Portion of letter to Dr. H. Arnott, kindly sent by him to THE PRACTITIONER.]

As I have been here some time and had a great number of cases of tuberculosis under observation, I thought I would write you, giving the treatment and management of patients by the Koch system. The patient is first thoroughly examined and the tubercular disease located. If in three days the temperature (taken five times a day) has not reached above  $102^{\circ}$ , it is considered a proper case for treatment. The amount of fluid injected varies according to whether the tubercular deposit is localized or

general. If the seat of trouble be in the larynx or lungs, or in cases of delicate women and children, the dose to start with is .0005. The injection is given in the morning. After the first dose is injected and reaction follows, the patient must be free from fever for one day before a second injection is given. The same dose is repeated until no reaction follows. After that it is increased to .001: this is kept up in the same way until no reaction follows, when it is increased by .001 until .01 is reached. When this dose has been reached without reaction, Friedlander considers the case for the time being cured. The patient is now discharged, but required to come back once in four days, when the same dose is given, this being kept up for four doses: then once each week for one month; then once in two weeks for three months. Caution: During the first treatment, the patient should be confined to bed and kept constantly under the supervision of the physician. Reaction is a series of phenomena following an injection. They usually begin to appear about six hours after the injection; exceptionally, however, they may be delayed and appear twenty-four or even forty hours after. For this reason, Friedlander and Cornet leave three days between injections, especially at first. Fever is not characteristic of this reaction: in some cases this symptom is lacking: while pain in the head, languor, increased and altered sputum, may show that the remedy is really acting. No chill may be observed at first, but after two or three injections there may be one. The duration of the reaction is very short in the great majority of cases.

The question has been asked, Is the treatment contra-indicated in hæmoptysis? Mr. Cornet answers, no; the saliva may be streaked after the first injection, but that this disappears after the injections have been given several times. It is suggested, however, that great caution be used in cases of hæmoptysis, that the initial dose be very small, and the intervals between doses long. In cases where the hectic fever reaches above  $102\frac{1}{2}^{\circ}$  F., treatment should be withheld. The question was asked, What is the length of time required to treat cases of incipient phthisis? The answer was that it usually takes five weeks before they cease to react to .01 doses. After this they must be treated according to method

by Friedlander. I am inclined to think that a case could be cured with greater rapidity if, in addition to the injection of Dr. Koch's lymph, they were given tonics and other building-up treatment. As yet they depend on the lymph alone for a cure. The number of patients here is so great that it is impossible for them to have proper hygienic surroundings, which greatly retards a cure.

At the Charite Hospital, where I attend, there are about 1600 consumptive patients, in all stages. In the majority of cases in the first stage of phthisis, lupus, tubercular glands, and joint affections, I can see a marked and rapid improvement in the symptoms. The cough, night sweats and fever disappear, and in a short time they improve in appearance and weight.

As a diagnostic remedy, the lymph is of the greatest use. A young physician had an injection performed upon him as a matter of experiment, not having the slightest suspicion that he was the subject of tubercles. A violent feverish reaction followed, which led to a careful examination by a physician, and this revealed a slight but unmistakable disease of the apex of one of the lungs.

In tubercular disease of the synovial membranes of the knee joint, the swelling caused by injection soon subsides and leaves the joint smaller than before. In severe cases of tubercular trouble, the necrotic tissue is separated from the healthy by the action of the lymph, and should be removed by surgical means, as it is only in the milder cases that the diseased tissue is absorbed. In cases of tubercular glands, after the injection they become inflamed, swollen, and slightly painful; later, they diminish in size. These symptoms are noticed after each injection until the glands become normal in size, when the remedy ceases to react.

I expect to remain here for about three weeks yet, and will continue my studies under Professor Senator of the University Polyclinic. I hope to reach London about the 1st of February with some of the lymph, as Sir Rober Mallet, here, to whom I had a letter of introduction, is doing all he can to procure it for us, and he has assured me that we will likely obtain a supply by that time.

Berlin, Jan. 1, 1891.

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, FEBRUARY 2, 1891.

### THE OUT-PATIENT DEPARTMENT OF CITY HOSPITALS.

We believe that reform is called for in the method of conducting the management of out-patients in our city hospitals. There are several directions in which the out-patient department could be improved, so that it might prove of greater service to the necessitous poor, and, at the same time, afford an opportunity for useful instruction to the student. Insufficient records are kept of this class of patients, and many evils result. It seems to us more important that records of these patients should be kept than it is that complete histories of the sick in the wards should be minutely detailed. Many of the patients are seen but once in the week; they, therefore, deserve more careful examination than the ward-patients, who are constantly under observation, and a record should be kept of their condition from time to time.

Occasionally a patient who does not appear very ill in the out-patient room subsequently develops serious symptoms, and he may die; the friends then apply for a death certificate. The physician under whose care he appeared in the outdoor department is frequently not justified under such circumstances in granting a certificate, as he is not in a position to certify to the true cause of death. Such a case recently occurred in the North Staffordshire Infirmary, and an inquest was rendered necessary in consequence of the assistant surgeon refusing to grant a certificate.

It would prove of great benefit to the student if he were taught to examine these cases in a systematic way, and if he were required to place

on record the details of cases. The patients presenting themselves in an out-patient department are largely made up of a class which illustrates very well the great majority of ailments met with in general practice. Instruction in the method of managing such cases is therefore of great service to the student, and would help him very greatly in his management of patients in private when he becomes qualified for practice. It is the experience of every young man beginning practice that his knowledge of slight ailments and of minor surgery is insufficient, and he has to learn by experience many things which he might have become familiar with if the instruction among out-patients at the hospital had been adequate. His attention during his attendance at hospital is constantly directed to the details in the management of serious cases as seen in the wards, whilst he is left sadly ignorant of the methods of dealing with simple maladies. In many of the hospitals in Britain records are kept; thus in St. Bartholomew's Hospital the patients seen by Dr. Lander Brunton are carefully noted in a book which has been prepared and printed with appropriate headings for the systematic record of the details of such cases; so, too, in the outdoor clinics of the Edinburgh Royal Infirmary a similar record is kept. We would suggest that suitable forms be prepared for the various branches of the outdoor department, and that the students in rotation be required to fill in the records. In this way he would be trained to systematically examine patients as they come under the care of the physician, the surgeon, the specialist in the eye and ear department, and the gynaecologist. We believe that great benefit would result both for the patient and the student if such a scheme as we have suggested were elaborated.

#### AN EPIDEMIC OF DIPHTHERIA.

Diphtheria of a very malignant type has been epidemic in Halifax for some months. The health authorities have taken the matter in hand and are putting forth every effort to stamp out the disease. The city ought to be one of the healthiest in the Dominion; situated at the seashore, with the natural slope of the land rendering the accomplishment of a perfect system of sewage easy, and possessing, as it does, a perfect

water supply, it seems inexplicable that the health of the city should not be good, and yet we are told that the annual death rate is one-half greater than that of London! The explanation appears to be that the system of sewage is far from perfect at present, and that garbage and filth are allowed to collect and are not disposed of as they should be. Under such circumstances a disease like diphtheria readily gains headway, and attempts to eradicate it prove futile until the sanitary condition of the city is improved. It has been suggested that the disease has spread from St. John's, Newfoundland, to Halifax. Diphtheria has been very prevalent in the former city, where an outbreak of unusual severity and malignancy has existed for some time. There is a great deal of direct communication between the two ports. The condition of St. John's, from a sanitary point of view, is much worse than Halifax. The authorities in our large cities should learn a salutary lesson from these epidemics; the citizens of Toronto are thoroughly aroused at present, in consequence of the amount of typhoid occurring during the autumn months. The importance of a thorough drainage system and a good water supply cannot be over-estimated, and the necessity of a competent man of undoubted ability as superintendent of the health department is an essential item in the preservation of the city health.

#### KOCH'S TREATMENT OF TUBERCULOSIS.

It is somewhat difficult amidst the varieties of evidence to judge as to what is likely to be accomplished in the treatment of tuberculosis by Koch's methods. The enthusiasts have been inclined to hope for too much, while the pessimists have gone to the other extreme. The results, according to reports up to the present time, have been good, bad, and indifferent. We have learned enough to know that the lymph is a powerful agent for good or evil, and that the greatest care should be exercised in the selection of cases. We have much pleasure in publishing in this issue some interesting communications from Berlin and London.

We are pleased to notice that Prof. Ramsay Wright's letter, giving the results of treatment in the Moabit Hospital, of Berlin, where a large



number of patients are being treated under the supervision of Prof. Koch and his trusted assistants, is very hopeful in its tone. It shows that there are great possibilities in the treatment of tuberculosis, both from a surgical and medical point of view, with the new remedy.

Prof. Virchow's address has created quite a ripple of excitement, as he gives *post mortem* reports which will exemplify the grave dangers connected with the use of the lymph. In a second address he explains that he considers it a valuable curative remedy, but he warns physicians against the serious dangers connected with its use. All the evidence at our disposal up to the present time shows that we may fairly expect wonderful results in the near future, but we must have patience to investigate very carefully the effects of the remedy for some time to come.

We are glad the University of Toronto has been able to send an abundant supply of the lymph to the various hospitals throughout the province, and we hope that rules accompanying the different supplies will be carefully observed. Where any doubts exist about the technique of injection, dosage, after treatment, etc., those who receive the remedy should wait until all preparations are fully matured, all proper instruments for proper dilution and injections at hand; and, above all things, carefully select their patients.

#### NOTES.

In connection with the statement made some time ago, that Jews are exempt from cancer, it is interesting to note that, in the vital statistics of the Jews of the United States, thirteen males and twenty-one females are returned as having died from cancer during a term of five years. Compared with the deaths from cancer in the whole of the United States, the death rate is about one per cent. less. The Jews have had greater loss than their neighbors from death by diphtheria, diarrhoeal diseases, nervous and circulatory diseases, but less from tubercular diseases.

The birth rate is tending to diminish year by year; the Jewesses born on this continent seem to be less fertile than those coming from Europe.

## Meeting of Medical Societies.

### TORONTO MEDICAL SOCIETY.

Dec. 17, 1890.

The President, Dr. Spencer, in the chair.

Dr. A. R. Robinson, of New York, gave a communication on

#### MALIGNANT CUTANEOUS EPITHELIOMATA.

We believe that the cells in a secondary growth are the direct descendants of, and have their origin from, the cells of the primary tumor; we are further inclined to believe that the disease is parasitic, but whether parasitic or hyperplastic, it does not matter as long as our operative procedure destroys the growth. In the case of simple histioid tumors, we accept Cohnheim's doctrine, that they come from excess of growth; as the tumor grows, it pushes aside the tissues and compresses them so as to form a capsule, there is no infiltration of surrounding tissues whatever going on. In cancer the manner of growth is different; pathological epithelium spreads throughout the tissue and infiltration takes place, so that what appears macroscopically as the outline of the tumor is by no means an indication of its limitations. The same is true of cutaneous epitheliomata: the epithelium undergoes a process which we may term hypoplastic, a long way beyond the apparent limits of the tumor, groups of cells are found within the lymph spaces. With regard to the origin of secondary tumors, we accept the view that they are the direct descendants of the cells of the primary growth. Thus in secondary tumors in the liver, the cells of the liver take no part in the process of development of the primary growth. If we accept the theory of the parasitic origin of these tumors, then this view of the origin of secondary tumors is difficult to explain. We must examine carefully in the tissue between the primary and secondary growths, and we find, oftentimes more successfully than at others, groups of cells in the lymph spaces, forming a continuous connection between the two growths. It is very frequently only a question of time to have recurrence after removal; this is in reality not a true recurrence, but is due to the failure in our attempt to remove the entire primary growth. Perhaps only one individual cell may



be left after operation; if such be parasitic, then it is sufficient to account for the so-called "recurrence." If it be parasitic, then we should try to find some means of destroying the organism with some material which, when applied, would destroy it, or we might make the ground less favorable for its growth. We have at present at our command methods by which we are enabled to attain this result.

The method of treatment which gives the best result is that which removes the greatest amount of pathological tissue and causes the least amount of pain. From a study of the method of extension of these growths, it is clear that if the surgeon will cut beyond the disease he will effect a cure. When we have to deal even with a small cutaneous epithelioma, we must cut very wide. The majority of cutaneous epitheliomata are on the face, and we cut as widely as possible under the circumstances. In the margins of our wound we have almost to a certainty left some pathological epithelium behind; if we have done our operation antiseptically, this epithelium will be preserved, and although the wound heals kindly, recurrence is sure to occur. If, on the other hand, we have not used antiseptic precautions, then the subsequent inflammation at the margins may, and often does, destroy the pathological epithelium in the neighborhood, and a cure is accomplished. This then affords us an indication against the use of antiseptics in such cases. Sometimes this inflammation is not sufficient and it is necessary for us to employ some more powerful agent to accomplish the destruction of the pathological epithelium. In the case of malignant epithelioma of the wrist, or the ear, the penis, etc., we can remove wide of the growth by resorting to amputation, and this course must be followed.

The operation of *scraping* malignant growths, usually performed at intervals, is followed after each operation by a reaction which stimulates the growth to extend. *Scraping plus the application of a caustic* has been advocated, *nitrate of silver* has most frequently been employed for the purpose; this, however, merely causes a small superficial necrosis. *Nitric acid* has been used; this is not strong enough and does not destroy the growth rapidly enough. *Caustic potash* acts much more rapidly, and is more useful because

it has great diffusive powers; the necrosis is extensive, but the pain produced is great.

It would be an advantage if we had some caustic, elective in its action, which would destroy the pathological epithelium and leave the normal tissue uninjured. *Pyrogallie acid* will sometimes act in this way; it will do so in lupus. *Resorcin* also, as a reducing agent, will have the same effect (used of the strength of grs. 30 to the ounce, it may be combined with calomel). This substance has a more satisfactory action than pyrogallie acid. *Arsenic* acts in the same manner. A paste may be prepared composed of equal parts of arsenious acid and gum acacia, mixed with water to the consistence of butter. This may be applied and left on for, on an average, sixteen hours. We find that an area beyond the apparent limitations of the tumor is attacked by the resulting inflammation, and the growth may in this manner be destroyed. This method of treatment possesses the special advantage that it may be employed in certain localities where neither cutting nor scraping is possible. The arsenious acid is elective in its action. If we have applied the paste and obtained sufficient intensity of action, then treat the resulting sore on ordinary principles. If after three or four weeks it has not healed from all sides as it ought to have done, then we believe that some pathological epithelium has been left and we reapply the paste. But even if healing does take place, still some pathological epithelium may be left behind; consequently it is imperative in these cases to keep track of the patient for at least two years before pronouncing the disease cured.

Whether or not these malignant growths can be benefited by the inoculation of the virus of erysipelas, is a question which cannot yet be satisfactorily discussed. By whatever means we attack pathological epithelium, we must remember that it extends widely. Caustics are preferable to the knife, or we may use caustics after a cutting operation. We must attack the disease energetically, and if we operate at intervals, we must allow no reaction between the times of attack. We must not use arsenious acid on mucous surfaces; caustic potash must be substituted.

In the discussion which followed, Dr. J. E. Graham stated that he considered the treatment

advocated by Dr. Robinson as sound, supported as it is by clinical experience, and based upon a recognition of facts gained from a knowledge of the true pathology of the disease. He narrated the history of a case in which a superficial epithelioma of the forehead recurred after excision. Three years ago the recurrent growth was excised and the wound burnt thoroughly with caustic potash. There has been no return. He asked Dr. Robinson's opinion as to the difference between rodent ulcer and epithelioma.

Dr. A. B. Macallum said the question of interest to him was whether or not the disease was parasitic; he still adheres to the opinion that the disease is due to the presence of a special organism. Referring to Dr. Robinson's remarks concerning the relation of the cells in a secondary growth to the cells of the primary tumor, Dr. Macallum stated that he had a specimen of a growth in the liver which shows a direct relationship between the liver cells and the cells of the growth, the latter being apparently descendants of the former. This would also bear out the parasitic theory of origin. The parasite is always lost sight of in the treatment, and rightly so; the growth of the epithelium is very properly the thing taken into consideration. A single cell is sufficient to continue the growth and to cause recurrence. Certain experimenters have taken the pathological epithelium of cancer and introduced it into the tunica vaginalis of the rat; a great number of cells necrosed, a few survived and were found growing and proliferating, forming secondary growths in the peritoneum; occasionally only one cancerous nodule appears as a secondary growth: such a nodule starts from a single cell. There is said to be no specifics for cancerous processes, but the treatment by caustics is of that nature. Albumins are dissolved and compounds formed which are very poisonous to the tissues. Caustic potash causes the production of a poisonous albuminate which kills the epithelial cells. Nitric acid acts by giving rise to an acid albumin which is destructive. We have something of an analogous nature in the fact that proteids are found to be the prime agents in vaccination.

Dr. Ferguson asked if Dr. Robinson would recommend the injection of irritants into affected axillary glands.

Dr. Atherton has never employed caustics; he

believes that 50 per cent. of epithelioma of the lip are cured by the knife and do not recur.

Dr. A. A. Macdonald referred to the usefulness of caustics in certain cases where the knife cannot be employed; he illustrated his remarks by referring to a case.

Dr. Reeve stated that in his experience with epitheliomata about the eye, he finds that the patients rarely present themselves until the tissues are pretty well infiltrated. In these cases, although we think that we have removed the entire growth, and although a plastic operation may have given an apparently perfect result, yet there is always a fear entertained of recurrence. Dr. Reeve thinks that the best course of procedure would be to remove the growth with the knife, then apply caustics, and do a plastic operation at a later date.

Dr. Powell and Dr. Price Brown narrated cases successfully treated by caustics.

Dr. Robinson, in reply, stated that great difference of opinion exists as to the diagnosis between rodent ulcer and squamous epithelioma. He fails to see any difference between a rodent ulcer and an infiltrating epithelioma. As to the etiology, Dr. Robinson regards epithelium as possessing just as much ability to form a new growth as fibrous tissue, or any other form of tissue; but in the variety of tumor we are considering to night, one inclines to the parasitic theory in studying the etiology. The question is whether these growths are merely hyperplastic or not; the epithelium passes into the lymphatic spaces and extends rapidly. Microscopic section will show the organisms to be of similar character in different forms of tumors, and it is a question as yet to be settled whether or not these act as an exciting cause. As to the secondary growths, such as those instanced by Dr. Macallum in the liver, the difficulty of studying the process is great; we find that the peculiarities of the cells of the secondary growths have always the characteristics of those of the primary tumor. The tendency of inheriting the ancestral characters of the cells, even in their arrangement, would tend to show that the cells in the secondary growth do not originate from the cells of the organ which is the seat of the secondary growth. We sometimes observe a cancer of the jaw, and on the lip, high up, in contact with the tumor, another

growth; we have in such a case a secondary growth produced by mere contact, this would point to a parasitic origin. If the secondary tumor arises from the primary tumor and from the cells of such, then, if the origin be parasitic, the parasite must reside within the epithelial cells.

Injection of the axillary glands has been tried by Dr. Robinson, but with no great advantage; because between the seat of the primary growth and the secondary we have pathological epithelium in the lymph spaces. The efficacy of the paste depends upon the manner in which it is applied; it ought to be applied at the proper time, and, if necessary to apply more than once, then it should be used at appropriate intervals.

### THE ASSOCIATION OF AMERICAN ANATOMISTS.

This society was formed two years ago, the officers consisting of the following gentlemen:—President, Joseph Leidy, M.D.; First vice., Frank Baker, M.D.; Second vice., F. D. Weisse, M.D.; Secretary-treasurer, A. H. P. Leuf, M.D.; Executive Committee: Harrison Allen, M.D. (Chairman); Burt. G. Wilder, M.D. and Thomas Dwight, M.D.; these officers being elected for a term of three years. It will be noticed that these gentlemen are all distinguished anatomists, and the effort of the society is to encourage practical work, the members being asked to present at the yearly meetings some portion of their original work for the year. One meeting has been held in Washington, one in Philadelphia, while this year it was at Boston, and in the anatomical lecture-room of the Harvard Medical School. A single oil portrait decorates the walls of this room; it is that of Dr. Oliver Wendell Holmes, so long professor of anatomy in this school.

The association was called to order on the afternoon of the 29th inst., by Dr. Weisse, of New York, who occupied the chair in the absence of the president. Among others, there were present, Professor Dwight, of Harvard University; Dr. Mixer, of Boston; Dr. Heintzman, of New York; Professor Wilder, of Cornell University; Dr. Duncan, of Toronto; Dr. Gage, of Ithaca; Dr. Weidman, of Boston.

The first paper was by Dr. Mixer, on

### CORROSIVE PREPARATIONS BY DIFFERENT METHODS.

He gave details of the methods he has followed with such success, and presented numerous specimens which excited the admiration of those present, on account of their completeness and beauty.

After discussion on this paper, Professor Dwight read his

### STUDIES ON THE SPINE,

accompanied by thirteen specimens which had been prepared, at different times, in the anatomical department of Harvard. Dr. Dwight's studies on the spine have been most careful, and his measurements brought out points which can scarcely fail to be of great use, especially medico-legally. His collection of spines contained several anomalies, the most interesting being the four cases in which well developed cervical ribs were present. In one case, the cervical and first dorsal ribs had united, so as to leave a foramen between. The question would arise, however, as to whether these are really cervical ribs or not. One authority holds that every process not united is a rib; that every vertebra causing such un-united process is a dorsal vertebra, and that all vertebra above the dorsal are cervical; all below, lumbar. The essayist concluded, giving as his opinion that it is of less importance to be able to map the divisions correctly than to be able to locate the attachments of the psoæ, the insertion of the diaphragm, or the lowest level to which the pleura descends.

Several members discussed this most valuable paper, very closely agreeing with Dr. Dwight's deductions.

The following day (Tuesday, Dec. 30th), the association met for a forenoon and afternoon session. Dr. Sheppard, of Montreal, and others arrived.

The first paper was by Dr. Gage, of Cornell University, upon the

### FIBRINE FILAMENTS OF BLOOD LYMPH IN MAMMALIA AND AMPHIBIA, WITH METHODS OF PREPARATION.

He was followed by Dr. Sheppard, of McGill College, who read a paper and presented preparations to show that the semi-lunar bone is



not confined to the radius in its articulation, but plays also upon the triangular fibro-cartilage covering the ulna. If the pyramidal bone is large, then the semi-lunar has but a small bearing on the plate of fibro-cartilage, and *vice versa*. Professor Sheppard also holds that where the triangular fibro-cartilage is pierced, this is always the result of disease. He presented also a number of other interesting specimens.

Dr. Dwight was the chief speaker in discussing this paper. His own investigations in regard to the semi-lunar bone had led him to adopt very much the views now enunciated by Dr. Sheppard.

Dr. Wilder, of Cornell University, then read a paper on

#### THE BRAINS OF A SHEEP AND CAT, LACKING THE CALLOSUM.

This condition is a very rare one in the human race, as may be judged when, out of the thousands of brains examined, only some fifteen cases are on record. Many of these had been so badly preserved as to be of little use in throwing light on the results of this curious condition. The opinion was expressed that where the callosum is wanting, the double layer of velum would be found reduced to a single layer, continuous anteriorly with external pia. Thus the roof of the third ventricle would be formed of but one layer each of ependyma and of pia mater. The essayist presented specimens of the examinations, and the paper, which was a very interesting one, was discussed by Dr. Duncan and others.

Dr. Carl Heintzman, of New York, then presented his paper on

#### PROTOPLASM AND MITOSIS.

His views, which are well-known, are startling. He asserts that the cell theory, as usually held, is entirely erroneous—in fact, he sweeps away the theory entirely. He finds in a bit of protoplasm (such as the *amorba*) a well-marked reticulum. The presence of this reticulum has been denied by many authorities, but Dr. Heintzman most unhesitatingly asserts its presence. Not only so, but he holds that it is in this reticulum that the life of the protoplasm exists, not in the fluid portions of it, nor yet specially in the nucleus. The movements of our own bodies are due to a similar reticulum,

for the sarcoous elements he holds to resemble the protoplasm of the *amorba*. He vigorously combats those who speak of the blood as a tissue; there is no fluid tissue. After explaining what is meant by the term mitosis, the essayist exhibited to the members some beautiful microscopic preparations showing this condition.

Dr. Fish then read an excellent paper on

#### OCCLUSION OF RHINOCELE IN THE DOG.

Dr. Wilder's last paper was upon the

#### RELATION OF THE OLFACTORY PORTION OF THE BRAIN TO THE CEREBRAL.

The opinion expressed was, in brief, that, as the olfactory portion was developed in advance of the cerebral, it (the olfactory) was really of more importance to the animal in that stage of his existence, and the thinking part of the brain, which was added afterwards, as a sort of after-thought, was really the less important part.

Dr. Heintzman and others discussed the papers, Dr. Heintzman vigorously supporting the views put forth by Dr. Wilder.

The secretary, Professor Dwight, then read a paper from Dr. Langdon, of Cincinnati, on

#### THE HOMOLOGY OF THE CEREBRO-SPINAL ARACHNOID,

with the other serous membranes. Dr. Langdon claimed to have demonstrated the existence of two layers of arachnoid, viz., parietal and visceral. He has not yet, however, traced these two layers to their point of union, which would be at the emergence of the cerebral nerves. He hopes to accomplish this before another meeting takes place. He also claims to have discovered a pair of foramina, hitherto unknown, and which he proposes to name the "Lunated Foramina." As described by Dr. Langdon, they open a free communication between the cavity of the arachnoid and the sub-arachnoid space: are found one on either side of the medulla; measure half an inch by a quarter of an inch, and are crossed by three or four fine bands of fibrous tissue. They lie just opposite to the foramen of Magendie.

Dr. Wilder expressed grave doubts in regard to these foramina lunulata. The probabilities were that the openings were artificially produced.

Dr. Duncan, in discussing the question of the two layers of arachnoid, while admitting the



necessity for further work on this matter, expressed the opinion that future investigations would demonstrate the presence of the visceral and parietal layers of the arachnoid.

Dr. Sheppard stated that he had seen the so-called lunated foramina produced artificially in the dissecting-room.

The association then adjourned, to hold its next meeting at the call of the secretary in the city of Washington.

## Pamphlets Received.

### *Mechanical Obstruction in Diseases of the Uterus.*

By Geo. F. Hurlburt, M.D., of St. Louis, Mo. Read at the 16th annual meeting of the Mississippi Valley Medical Association, Louisville, Kentucky, Oct. 9th, 1890. Reprinted from the *Med. News*.

### *Prof. R. Koch's Method to Cure Tuberculosis*

Popularly treated by Dr. Max. Birnbaum; translated from the German by Dr. F. Brendecke, Milwaukee, Wis.; H. E. Haferkorn, publisher.

*Note on the Virile Reflex.* By C. H. Hughes, M.D., St. Louis.

*The Psychopathic Sequences of Hereditary Entailment.* By C. H. Hughes, M.D., St. Louis.

*Census Bulletin. Vital Statistics of the Jews in the United States.*

*Prospectus of the London Post-Graduate Course, 1891.*

*An Address on Ether Drinking; its Prevalence and Results.* By Ernest Hart, Editor of *The British Medical Journal*.

*Supplemental Report on Cartilaginous Tumors of the Larynx and Warty Growths on the Nose; Unilateral Paralysis of the Lateral Crico-Arytenoid Muscle.* By E. Fletcher Ingals, A.M., M.D., Chicago.

*The Abuse of a Great Charity.* By Geo. M. Gould, M.D., Ophthalmologist to the Philadelphia Hospital.

*Antisepsis and Asepsis Before and After Major Gynecological Operations.* By Howard A. Kelly, M.D., Professor of Gynecology in the Johns Hopkins University.

*Abnormal Intro-thoracic air pressures and their Treatment.* By Charles Denison, M.D., of Denver, Colorado.

*Twenty-first Annual Report of the State Board of Health of Massachusetts.*

*Forty-eighth Report of the Legislature of Massachusetts Relating to the Registry and Return of Births, Marriages, and Deaths.*

Sander's Question Compend:—

*Essentials of Diseases of Children.* By W. M. Powell, M.D.

*Essentials of Pharmacy.* By L. E. Sayre.

*Essentials of Practice of Medicine.* By Henry Morris, M.D.

*Quiz Compend. Diseases of Children.* By M. A. Hatfield, M.D.

## Therapeutic Notes.

Quinquaud recommends, to relieve the itching of urticaria, the frequent use of

|                  |   |   |           |
|------------------|---|---|-----------|
| Aq. lauro.cerasi | - | - | 10 parts. |
| Chloral          | - | - | 1 "       |
| Water            | - | - | 40 "      |

*La Médecine Moderne* recommends for migraine the following powder:

|                        |        |
|------------------------|--------|
| R.—Citrate of Caffeine | gr. 1½ |
| Phenacetin             | gr. 2  |
| Sugar of Milk          | 5i     |

Repeated if necessary in two hours.

For flatulence and constipation.

R.—Magnesia

Sulphur sublim. aa. gr. 75

Divide into fifteen capsules. One after each meal.

In hysterical convulsions leave the patient as much to herself as possible, avoiding physical restraint. Pressure over the epigastric or ovarian regions will often bring an attack to a prompt termination. Another effectual method is to apply gradual pressure over the eyeballs, maintaining it for several minutes: *London Medical Recorder*. Still better are firm pressure over the supra-orbital nerves, or forcible wrenching of the great toe.

Prichard has found phenacetine the most reliable of the modern anti-neuralgic and analgesic remedies in sciatica. He gives it in seven grain doses every four hours, at the same time making use of iron, quinine, arsenic, and other tonic remedies as indicated.

Buzzard prescribes salicylate of sodium in vertigo associated with auditory nerve symptoms.

In traumatic rupture of the membrana tympani, the chief rule of treatment is to do no harm. The best treatment is simply to close the meatus with a wad of absorbent cotton, and to avoid all use of the syringe. Avoid the use of anything in the ear thus injured. If the ear is carefully stopped with cotton—antiseptic preferred—the patient may attend to his affairs, if there is no other complication to forbid it.—*Journal of Med. Sciences*.

A German physician recommends, for the cure of inveterate constipation, the insufflation of a few grains of powdered boracic acid into the rectum.

In Sajou's *Annual of the Medical Sciences*, it is said that the unpleasant symptoms sometimes associated with the continued use of iodine may be prevented by the daily administration of fifteen grains of sod. bicarb.

Physicians are warned, by the *Pharmaceutical Journal*, that phenacetine is now being freely adulterated with antifelbrin, which is about ten times as cheap as the former.

#### INJECTION FOR CANCER OF THE BLADDER:

R.—Iodoform . . . 1 ounce.

Glycerin . . . 1 ounce.

Distilled water . . . 1 drachm.

Gum tragacanth. . . 2 grains.—M.

Add a teaspoonful of this mixture to a pint of hot water. The bladder is to be first washed out with water as hot as can be borne, after which the iodoform mixture just named may be injected, and then permitted to escape. These injections should be repeated three times a day; and it is worthy of remark that after three or four injections very great relief generally ensues.—*Medical News*.

MENTHOL PLASTERS.—Menthol has been used for some time to relieve pain from various causes. Its virtues are well known, but the effects of its application have, as a rule, not lasted long. Messrs. Davis & Lawrence Co., of Montreal, are now preparing it in the form of a plaster, in which it is combined with medicinal gums. This "D. & L. Menthol Plaster" has proved very serviceable by relieving pain, especially when produced by neuralgia or rheumatism. It is prepared in yard rolls, seven inches wide, each of which will make seven good-sized plasters.

### Personal.

MR. GEORGE MURRAY HUMPHREY, formerly professor of anatomy, and lately of surgery, Cambridge, has received the honor of knighthood.

DR. RICHARD QUAIN (M.B. London, 1840; M.D., 1842) has been made a baronet. He is in his 75th year, an Irishman by birth, and one of the best known physicians of London. He is the editor of "Quain's Dictionary of Medicine," and has been for some time Physician Extraordinary to the Queen.

DR. DONALD MEYERS (Trin. '89) is still in Vienna.

DR. C. MACLACHLAN, of New Rockford, North Dakota, was in Toronto in January.

DR. E. P. GORDON, of Toronto, has been appointed surgeon to the Canadian Pacific Steamship Company.

DR. W. BEATTIE NESBITT, of Toronto, has recently returned from Berlin, where he remained about six weeks.

DR. J. H. PARSONS, late of Meaford, has recently returned to Canada, having completed three years' study in the Eye, Ear, and Throat Hospitals of London, Berlin, Vienna, and New York. He will shortly commence the practice of these specialties in Toronto. Dr. Parsons was assistant-surgeon in the former Toronto Eye and Ear Infirmary.

## Births, Marriages, and Deaths.

### BIRTHS.

GRASSETT—At 208 Simcoe street, on Monday, January 19th, the wife of F. Le M. Grasset, M.B., of a son.

### MARRIAGES.

BISHOP—GILBERT—At Willard, N.Y., on January 8th, Edwin R. Bishop, M.D., to Bessie Gilbert.

## Miscellaneous.

THE eighty-fifth annual meeting of the medical society of the State of New York will be held in Albany on Tuesday, Wednesday, and Thursday, February 3rd, 4th, and 5th, under the presidency of Dr. W. Warren Potter, of Buffalo.

HENRY C. LEE, of Philadelphia, has given \$50,000 for the erection of a building for hygienic instruction, as an annex to the University of Pennsylvania. It is expected that it will be the finest hygienic institution in the world.

THE annual meeting of the Canadian Press Association will be held at Toronto on Friday and Saturday, Feb. 13th and 14th.

DR. J. Algernon Temple's hospital, "Bellevue House," which has just been completed, is ready for the reception of cases of women requiring medical and surgical treatment. Last week he had three ovariectomies in the new building. The sanitary arrangements are complete, and the equipments are all that could be desired.

THE LAW AS REGARDS TWINS. — When twins are born in France, the last born is considered by law the eldest! Consequently, if both survive, and, in the case of boys, reach manhood, the second is called to the army to serve, being pronounced the eldest. By some extraordinary calculation the medical men who were consulted at the passing of the Act years ago came to the conclusion that the last born of twins was always the first conceived.—*Medical Press and Circular*.

PRESCRIBING LIQUORS.—"During the recent heated political term in South Carolina a convention met at the county site. The town being a 'dry' one, delegates suffered much from thirst, which fever a thrifty physician sought to allay by prescriptions of whiskey and beer. The size of one dose, a dozen bottles, attracted the law's attention, and the medical man is now in the law's clutch. From this he attempts to rescue himself by pleading his professional privilege, but the judge says that while 'prescription' is broad enough to cover a black draught, it lacks elasticity enough for a dozen black bottles."—*Druggist's Circular and Chemical Gazette*.

A FORECAST IN REGARD TO CHOLERA.—Dr. J. H. Rauch is reported as having said, at the recent annual meeting of the Illinois State Board of Health, that a conference with the health officials of Great Britain and Germany had given him the impression that they agreed in thinking that there was great danger of the spread of cholera this year; and as having added that, after a careful review of the situation, he felt that this country also was in great danger of its introduction, though by extreme vigilance at the maritime ports this might be prevented.—*N. Y. Med. Jour.*



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**Original Communications.**

**THE GERMS OF TYPHOID FEVER.**

BY VICTOR C. VAUGHAN, M.D., PH.D.

In 1880, Eberth,<sup>1</sup> of Zurich, in eighteen out of forty cases of typhoid fever, found in sections of the spleen and mesenteric glands a short bacillus which he was unable to detect in similar examinations of twenty-four persons who had died of other diseases. From these facts this distinguished Swiss investigator thought himself entitled to the claim of the discovery of the true germ of typhoid fever.

Before Eberth's report, Koch had observed this germ, and had micro-photographs of it. Indeed before Koch,<sup>2</sup> Browicz,<sup>3</sup> Sokoloff,<sup>4</sup> and Fischel,<sup>5</sup> had individually found in the tissues of typhoid subjects oval bacilli which were probably identical with those of Eberth and Koch. This organism is designated by some as the Koch-Eberth germ, and by others as the Eberth germ, or bacillus. For the sake of brevity, I shall in the following discussion employ the shorter name.

This organism is now regarded by the majority of bacteriologists as the true and only cause of typhoid fever, and I shall give my attention first to the grounds upon which this belief is founded. Has it been conclusively demonstrated that the Eberth germ is the sole and sufficient cause of typhoid fever? To what extent have the four rules of Koch been complied with in the study of this germ? Are there any reasons outside of

these rules for founding a belief either for or against the specific nature of this bacillus?

In the first place, is this organism found invariably in typhoid fever? As has been stated, in his first report Eberth found it in eighteen out of forty cases; but since that time methods have been perfected and many other investigators have studied this point. In the examination of twenty-eight bodies, dead from typhoid fever, Gaffky<sup>6</sup> found the Eberth germ in twenty-six; Frankel and Simmonds<sup>7</sup> reported it in twenty-five out of twenty-nine cases; Seitz in twenty-two out of twenty-four; Rietsch<sup>8</sup> in thirty-five out of thirty-six; and Kowalski<sup>9</sup> found it present in each of twenty-nine cases.

Without citing further authorities, I may say that the number of cases of genuine typhoid fever in which this germ has not been reported, when the examinations have been made by competent men, is so small that we are justified in claiming that the first of Koch's rules has been complied with. Indeed, in reading over the great number of cases referred to in the volumes of Baumgarten's "Jahresbericht," in which the Eberth germ has been reported to be present, one becomes somewhat suspicious of the universality and readiness with which this organism has been detected. Gaffky and others found it always present in the mesenteric glands and spleen, often in the liver, and not so frequently in the kidney. In the intestine it has been found, in the early stages, in the swollen follicles and plaques; and in the deeper layers, before there is any necrosis; but with the advent

of ulceration there is found secondary invasion. But in addition to these organs, the Eberth germ has been reported by <sup>9</sup>Chantemesse and Vidal<sup>10</sup> in the lungs of typhoid patients with bronchitis, broncho-pneumonia and pneumonia. The same observers report the germ in the brain; Curschmann,<sup>11</sup> in the spinal cord; Zenker and Hoffmann,<sup>12</sup> in the voluntary muscles and in the marrow of the bones; and Reber,<sup>13</sup> Neuhauss<sup>14</sup> and Chantemesse and Vidal, in the placenta of typhoid patients. In twenty samples of blood taken from the finger, during life, of typhoid patients, Meisels<sup>15</sup> reports the finding of this germ in nineteen. Neuhauss examined the blood taken from the eruptive spots in typhoid fever with success. Maragliano<sup>16</sup> and others examined the blood taken from the spleen during life as a means of diagnosis. The Eberth germ has been found in drinking-water by Dreyfuss-Brisac and Vidal,<sup>17</sup> Michael,<sup>18</sup> Moers,<sup>19</sup> Chantemesse, Loir,<sup>20</sup> Thoinot, De Blasi,<sup>21</sup> Galbucci,<sup>22</sup> Beumer,<sup>23</sup> and others. Granting that these observers have not been mistaken in the nature of the germs which they have found, we must admit that the Eberth germ is widely distributed. Banti<sup>24</sup> reports Eberth's germ in a case which he calls atypical typhoid fever, and in which the intestine was perfectly sound. This case is pronounced typhoid fever, notwithstanding the absence of any indication of the characteristic lesion of the disease, because the germ was found to be present. Whether or not this is justifiable is, I think, very questionable.

That the second of Koch's rules has been complied with, there is no doubt. Pure cultures of this germ are to be found in every bacteriological laboratory. It grows readily in our artificial media, and its (accredited) characteristics of growth are well known. The attempts which have been made to induce the disease in the lower animals by inoculation with this germ are numerous and interesting. I shall not attempt to review all of these, but will call your attention to some of the more important ones. The first to experiment with pure cultures was Gaffky. To five Java apes, he fed daily cultures without any results. Later these animals died of tuberculosis, and section showed no lesions resembling those of typhoid fever. Equally without result were two experiments upon apes; in one, the inoculation being made

directly into the blood, and in the other, in the tissues over the sternum. Gaffky also inoculated rabbits, guinea-pigs, rats, mice, pigeons, a chicken, and a calf, all without result. In these, the inoculations were made directly into the blood vessels or into the peritoneal cavity.

The experiments of E. Frankel and Simmonds<sup>25</sup> seemed at first to prove that the Eberth bacillus is pathogenic to some of the lower animals. These experimenters suspended the germ taken from potato cultures in sterilized water and injected this either directly into the blood or into the peritoneal cavity. Nineteen, out of thirty-two rabbits, and twenty-seven, out of thirty-one mice, succumbed under this treatment. These animals survived the injections from a few hours to four days, the majority dying on the first day. The symptoms observed consisted of lessened response to surroundings, lessened inclination to move, loss of appetite, and, in many, diarrhoeal discharges. Section showed enlargement of the spleen and mesenteric glands, and swelling of the intestinal follicles. In some there were observed enlargement of the axillary and inguinal glands, ecchymoses of serous membranes, inflammatory redness and hemorrhage in parts of the intestines, and parenchymatous swelling of the liver and kidneys. In no case was there suppuration at the point of inoculation. In the spleen, mesenteric glands, liver, kidneys, and Peyer's patches, the bacillus could be detected. However, the abundance of the bacilli did not correspond with the extent of the macroscopic changes. From these experiments, Frankel and Simmonds concluded that they had successfully transmitted typhoid fever to these animals.

Independently of the above, Di Vesta inoculated, with fatal results, rabbits and guinea-pigs. The lesions were not so marked as those found by the Hamburg investigators. Later, A. Frankel<sup>26</sup> inoculated guinea-pigs with the Eberth germ after the manner employed by Nicati and Rietsch in their experiments with the cholera bacillus, and which consists in introducing the germ directly into the duodenum, either with or without ligature of the bile duct. Of the fourteen animals thus treated, seven died. The anatomical changes observed were similar to those found by E. Frankel and Simmonds.

Seitz,<sup>27</sup> employing Koch's method for pro-

ducing cholera in guinea-pigs, found that seven out of sixteen animals died within forty-eight hours, and one other after four days. The germ could be detected in the intestines, but not in the other organs. Intravenous and intraperitoneal injections of the germ produced results similar to those obtained by E. Frankel and Simmonds.

Beumer and Peiper<sup>28</sup> confirm the observations made by E. Frankel and Simmonds, and A. Frankel and Seitz, but interpret their results in a wholly different way, and reach a diametrically opposite conclusion. In the first place, they find that the effect upon the animal is in direct proportion to the amount of the culture injected; an amount which is small, but which still contains many thousand germs, fails to produce any symptoms. Secondly, they prove that the Eberth germ does not multiply in the body of the animal, but, on the contrary, soon dies. Thirdly, they show that the same symptoms and identical structural changes result from injecting like amounts of certain well-known non-pathogenic bacteria, such as bacillus subtilis, the greenish-yellow liquefying bacillus of water, the white bacillus of water, and others. Thus they show that the death of the animals is due to intoxication, and not to infection; also, that the intoxication is not specific, inasmuch as it is produced with equal facility with other bacteria.

Finally, Sirotin<sup>29</sup> demonstrates that the same symptoms and pathological lesions are produced by sterilized and non-sterilized cultures of the Eberth germ. This completes the proof that the effects observed are not due to the growth of the germ within the body.

To sum up the evidence which we have on this point, we may say: (1) A germ giving the tests supposed to be characteristic of the Eberth germ is found invariably in the bodies of those dead from typhoid fever. (2) It has been isolated and grown in pure cultures. (3) All attempts to induce typhoid fever in the lower animals by inoculation with this germ have so far been without success. (4) Experiments show not only that the germ fails to multiply in the lower animals, but that, when introduced by inoculation, it soon dies.

I think that every bacteriologist will agree with me in the conclusions which I have just drawn; but some of them will say with Baum-

garten<sup>30</sup> that the lower animals do not have typhoid fever, while others agree with Welch<sup>31</sup> that it is not necessary to reproduce the disease in animals in order to prove the causal relation between the germ and the disease. Welch states: "From our present knowledge, we are justified in believing that a micro-organism which is invariably associated with a disease, which is found in the lesions of the disease and in situations which explain the symptoms and lesions, and which is never found except in association with the disease, must be regarded as the cause of the disease." By one or the other of these assertions the majority of bacteriologists satisfy their scientific minds and accept Eberth's germ as the true, sufficient, and sole cause of typhoid fever. Neither of these explanations has been satisfactory to me, and we will briefly consider their weight.

In the first place, do any of the lower animals ever manifest the symptoms and demonstrate the lesions of typhoid fever? In discussing this point, we will leave out of consideration for the time being all questions about the identity of the germ which may cause typhoid fever in man and that which may cause the same disease in the lower animals. In fact we will not, for a few moments, say anything concerning germs, but will endeavor to answer the plain question, are the lower animals wholly free from typhoid fever? In the first place, it will be necessary for us to know just what symptoms and lesions are necessary in order to constitute typhoid fever. The only constant symptom is the continued fever. There may be either diarrhoea or constipation; the eruption either may or may not appear; active delirium is frequent in some epidemics, while in others the mind is perfectly clear throughout the course of the disease. In short, as we all know, there are the greatest variations in the symptoms among which the only constant and invariable one is the continued fever. The only constant lesions are the inflammations of the solitary and agminated glands of the ileum, often progressing to ulceration, and the enlargement of the spleen and mesenteric glands. If a man should manifest a constant elevation of temperature extending over from seven to forty-two days, then should die, and a careful *post mortem* examination should reveal ulceration, possibly perforation, of the ileum, and



enlargement of the spleen and mesenteric glands, with no tuberculosis, what would any intelligent jury of medical men give as the cause of death? Could it be other than typhoid fever? Now, if this symptom and these lesions are observed in a dog or cat, what shall we name the disease? These symptoms and these lesions may be induced and do occur in the lower animals.

Huguenin, as quoted by Murchison, says that enteric fever with characteristic intestinal lesions is by no means uncommon among cattle in Switzerland.

In 1882, Brautlecht<sup>32</sup> inoculated rabbits with germs from water supposed to be the cause of a typhoid epidemic, with the following results: The animals had some elevation of temperature, lost flesh until they became mere skeletons, and died after from two to eight weeks. Very young animals died within two or three days after having profuse diarrhoeal discharges. *Post mortem* examination showed in the adult animals invariably a severe catarrh of the small intestines, and marked enlargement and coloration of the spleen and mesenteric glands. The walls of the intestines were thickened and friable, the mucous membrane, swollen, yellowish, and reticulated. Ulceration was present in some cases, but was generally confined to individual glands.

In 1885, Semmer<sup>33</sup> reported typhoid fever in three dogs and a horse. The lesions were found to be well marked. In 1888 he confirmed his statement regarding the occurrence of typhoid fever among the lower animals, and reported finding in some of these a germ similar in form and size to that of Eberth, and in others an organism which differed from this only in being larger.

Drs. Hendricks and Brewer made the following report on the *post mortem* examination of a dog which died on the twenty-eighth day after I had inoculated it with a germ obtained from water supposed to have caused typhoid fever: "The weight of the body was twenty pounds. Upon the abdominal cavity being opened, the mesenteric fat was observed to be pink, with hemorrhagic spots. The blood vessels of the intestines were found to be highly injected, with numerous points of hemorrhagic infiltration. On the mesentery near the cæcum were large hemorrhagic spots. The lower inch and a half of the ileum was distended and covered exter-

nally with clotted blood. The mesenteric glands were enlarged to four or five times their normal size, and each contained numerous hemorrhagic spots. The glands of the vermiform appendix were much enlarged, and were pitted in the centre. Under the mesentery of the cæcum was a plastic exudate, almost transparent. The descending portion of the duodenum showed numerous bright hemorrhagic spots along the line of its junction with the mesentery. Along the upper portion of the ileum the intestine presented a greenish macerated appearance, and a soft, pultaceous feel. Air blown into the intestine escaped through the walls at this point. The mucous membrane of the ileum was swollen and Peyer's patches enlarged, but there were no distinct ulcerations. The liver was indurated and of a deep cherry color; weight, twenty-three ounces. The kidneys were enlarged to twice the normal size, and were dark in color. The spleen was enlarged, and of a dark purple color. The stomach was contracted, and its mucous membrane showed a few hemorrhagic spots. The lungs were normal, and the heart in diastole and free from clots. The thymus and lymphatic glands were enlarged."

Flügge<sup>34</sup> says: "It is known that a group of widely distributed organisms, which, however, are wholly different from the typhoid bacillus, have the power, when injected subcutaneously or intravenously, of producing in animals death, with marked swelling and ulceration of Peyer's patches. To these organisms undoubtedly are due the apparently positive results which some authors have supposed to be due to inoculation with the typhoid bacillus."

It is unnecessary to bring forward further evidence on this point. It must be acknowledged that members of several species of our domestic animals occasionally manifest the essential symptoms and lesions of the disease which in man we designate as typhoid fever. This disposes of one of the two explanations given by some bacteriologists for the failure to induce typhoid fever in the lower animals by inoculation with the Eberth germ, and we will proceed to a discussion of the second explanation.

When we say that Eberth's germ is invariably found in the spleen and mesenteric glands of those dead from typhoid fever, we understand



that this germ possesses certain characteristics either in form, size, reaction to staining agents, in manner of development or growth, or in some other particular by which it can be distinguished from all other germs. If it can be shown that the organism has no such characteristics, or that its supposed characteristics are possessed and reproduced by other germs, then all the evidence of its specific nature which has been drawn from its constancy in typhoid cases becomes worthless, because no investigator can then say that the organism which he finds belongs to the same species which Eberth observed; for the means of recognizing this species to the exclusion of all others do not exist, or at least have not been applied.

What are the tests upon which we rely in the identification of Eberth's germ? No bacteriologist will, I suppose, claim that there is anything in the form or size of Eberth's germ by which it can be distinguished from the ordinary saprophytic bacilli; but on this point I will fortify myself with a quotation from Baumgarten, a most earnest believer in, and a most able exponent of, the specific character of the organism. He says: "The typhoid bacillus in those development forms in which we most frequently see it (namely, in the infected body of man) shows a very great resemblance to the common, widely-distributed bacilli of ordinary putrefaction which were formerly designated by the now antiquated name of *bacterium termo*. In the fresh typhoid infiltrations of the intestinal walls, in the typhoid, infiltrated mesenteric glands, in the hyperplastic spleen, in the liver, in the kidney, etc., our bacilli (Eberth's germ) appear just like (*gleichwie*) the *bacterium termo*, as short (scarcely three times as long as broad), relatively thick rods with rounded ends, which are often joined in twos, at times in threes, so as to appear on a superficial examination like long single bacilli." We therefore see that it is admitted by those who believe in the specific nature of Eberth's germ that there is nothing in its morphology by which it can be distinguished from certain putrefactive bacilli. We turn, therefore, from this point and now proceed to the study of certain tinctorial and growth properties, by means of which Baumgarten and others state that Eberth's germ can with absolute certainty be distinguished from the bacilli already men-

tioned. Great stress has been laid upon the statement that Eberth's germ takes the aniline colors with difficulty and imperfectly, while the putrefactive bacilli take such stains promptly. I once carried to one of the most renowned teachers of bacteriology in Germany cultures of a germ which I had isolated from drinking-water, and after inoculation with which three dogs had manifested continued fever, one of the animals dying on the twenty-eighth day, a second on the thirty-fifth day, both showing on *post mortem* examination in a marked degree the essential lesions of typhoid fever, and the third finally recovering, and asked him if it might not be a modified form of Eberth's germ. He found that my germ did take the ordinary stains, and from this fact alone claimed that it could have no relation to Eberth's germ, that it was nothing more nor less than a saprophytic bacillus, and that either it had no causal relation to the diseased condition in the dogs or the disease in the dogs was not typhoid fever, "Because," said he, "there is no doubt that Eberth's germ is the specific cause of typhoid fever." I think that I am now in a position to demonstrate that this test is wholly unreliable. In the first place, the behavior of Eberth's germ to staining reagents is wholly dependent upon circumstances, and will vary greatly with different samples. This is partially recognized by Baumgarten, who states that the difference in the readiness of taking stains between Eberth's germ and the putrefactive bacilli is less marked in cover-glass preparations than in sections. Eberth's germ, which has been grown artificially through many successive generations, takes the stain quickly and deeply. I have here preparations made from a pure culture obtained in the Hygienic Institute of Berlin in August, 1888, and that these bacilli have taken the stains to which they were exposed for less than a minute can be readily seen. In the tissues, or in cultures recently taken from the tissues, this germ is stained with difficulty; but when long grown outside the body, it takes these same stains readily. Now, what condition leads to this difference? I have here two germs taken from drinking-water, which as first obtained are stained quickly and deeply, but after they have been kept at a fever temperature for a time, they manifest the same difficulty in staining as is shown by Eberth's germ. This difficulty in

staining increases directly with the temperature and time of exposure. Moreover, readiness in being stained is not immediately regained by succeeding generations of the heated germ, even when these successive generations are grown at ordinary temperature. I will present to you preparations of these germs along with those of Eberth submitted to the action of the same stains for the same length of time, and I am sure that no one will be able to distinguish one from the other by any difference in depth of stain.

Great stress has been laid upon the fact that Eberth's germ is not stained by Gram's method, while the putrefactive bacilli are stained by this method. This apparent difference is also due to differences in temperature at which the germ has been grown. I have here preparations of a bacillus obtained from drinking-water, which, after having been kept at from  $39^{\circ}$  to  $40^{\circ}\text{C}$ . for from three to twenty-one days, are wholly unaffected by Gram's method of staining. I must therefore conclude that the method of distinguishing Eberth's germ from certain putrefactive bacilli by differences in behavior towards staining reagents is wholly unreliable.

I will submit to you numerous preparations of two germs obtained from water along with similar preparations of Eberth's germ, the length of exposure to heat and the degree of heat being indicated on each slide, and I am sure these preparations will bear me out in the above conclusion.

We have been taught that the invisible mould which Eberth's germ forms on potato is an absolutely certain means of its identification and distinction from all other germs. Frankel says that this "is a sure means of correct recognition, for the growth is perfectly characteristic and does not occur with any other known germ." This positive statement is reinforced in the same paragraph as follows: "This growth of the typhoid bacillus is so characteristic that with its help one can at any time distinguish this from other bacteria, and one should not report the presence of this germ until every doubt has been removed by the potato culture."

Baumgarten also states that the growth on potato is wholly characteristic, and gives this method of distinguishing Eberth's bacillus from that of Emmerich (a *fæces bacillus*), which, as he

states, agrees with the Eberth germ in its growths on gelatine, agar, and blood-serum. Now, the two germs which I have here, and which I obtained from drinking-water supposed to have caused typhoid fever, grow on potato, when they have not been kept at a fever temperature, much like the *fæces bacillus*, forming a raised whitish mould; but after having been kept for seven days or longer at from  $39^{\circ}$  to  $40^{\circ}$ , they form a wholly invisible growth on the potato which cannot be distinguished from Eberth's germ. Proofs of this statement are here before us, and I am sure that no one could select out the potato which bears Eberth's germ.

It will be well to speak somewhat in detail concerning these germs which I have obtained from water, and also of the exact conditions to which they have been subjected in order to so modify them that they are affected by staining agents in the same manner as Eberth's germ, and also produce a like growth on the potato.

In October, 1888, I adopted the following method of making a sanitary analysis of drinking-water: In all cases where the samples are collected by the laboratory assistants, a sterilized flask closed with cotton is used. In other instances, when I am informed by a health officer that he desires the analysis of a water, I send him a sterilized bottle, or instruct him how to sterilize a bottle. In other cases, the water comes usually in a new bottle or jug which has been well rinsed with the same water. As soon as the water is received, plate cultures are made and a test tube of beef-tea is inoculated with one drop of the water. This tube is placed in an incubator and kept at  $37^{\circ}\text{C}$ . for twenty-four hours. Then twenty drops of the beef-tea cultures are injected with a sterilized syringe into the abdominal cavity of a white rat or guinea-pig. In some instances rabbits have been used, and with these the amount injected has varied from twenty to sixty drops, according to the size of the animal. If the water contains a toxicogenic germ the animal dies, usually within twelve hours. A *post mortem* is made, the gross appearances noted, and plates are prepared from the spleen, liver, kidney, and sometimes from the blood. After twenty-four hours longer these plates have generally developed (in some instances a longer time is required), and they are compared with the plates made directly from the water. On

the plates made directly from the water the germs are counted and their general appearance noted after twenty-four, forty-eight, and seventy-two hours. In the meantime the chemical analysis is completed, and under favorable circumstances the report can be made three days after the water has been received; a week furnishes all the time required in any case. The germs taken from the plates can then be studied at leisure.

In this manner 160 samples of drinking water have been examined. Of this number, twenty-four were supposed to be causing at the time typhoid fever. In all of these, with the exception of three, toxicogenic germs have been found. I will now give a short description of each of these micro-organisms:

**Bacillus A.:** This is a short, motile bacillus, which does not liquefy gelatin, and which forms a white, raised, moist growth on potatoes. It forms no gas, takes the ordinary stains fairly, and gives a positive result with Gram's method. Of six full-grown rabbits, each inoculated by the injection of sixty drops of a twenty-four hour culture in beef-tea into the abdominal cavity, all died. Two rabbits which were given subcutaneously twenty drops each of this culture were not affected. Of fifty rats which were given twenty drops of this culture by injection into the abdominal cavity, all died. Two rats which were inoculated subcutaneously died after ten days. Of eight guinea-pigs inoculated in the abdominal cavity, all died; and a like result followed the subcutaneous inoculation of the animals.

Cultures of this germ were tested along with similar cultures of bacterium coli commune, and the former appeared to be slightly more pathogenic with rats and guinea-pigs, and less so with rabbits than the latter.

In every case of death after inoculation with this germ, plate cultures were made from the spleen, liver, and kidney, and in many instances from the blood of the heart, and without exception the plates showed abundant growths; therefore, this germ not only produces death, but is capable of living in the rat for ten days.

The *post mortem* appearances vary with the time which elapses between the inoculation and death. In cases dying within twenty-four hours the intestines are, as a rule, slightly reddened; the liver, spleen, and kidneys engorged; and the

heart has invariably been found in diastole. In cases which survive for several days there may be ulceration of the intestine; the spleen and kidney are enlarged, and the liver dark. In a few instances, all of which, strangely enough, have followed subcutaneous inoculation on the back, a marked peritonitis has been found after death. The same fact has been observed with bacillus B. In no instance has suppuration resulted from an inoculation.

In the majority of samples of drinking-water in which I have found bacillus A, no other organism has developed on the plates. In other words, the water is a pure culture of this germ. It may be of interest to say something about the cases of typhoid fever which were supposed to be due to the waters containing this germ.

Of the cases of typhoid fever supposed to be due to one of these waters I had personal knowledge. First, a girl of sixteen was attacked, and I was called in attendance. I inquired concerning the drinking water, and was told that the hydrant water only was used. I could not believe that this water was the cause of the fever, but ordered that all water used in the house should be boiled. I was asked if the disease was contagious, and replied in the negative; but having in consideration the comfort of my patient, advised that two young brothers and a girl visiting at the house should be kept away from the sick room. Within eight or ten days one of the brothers came down with the fever, and we learned that the visitor, who had gone to Cincinnati, was suffering from the same disease. Of course, the mother now claimed that the disease was contagious. Believing that there must be some local cause, I examined the house throughout, but without satisfaction. A little later, a young man rooming in the house was attacked. By this time the first patient, who had been continuously delirious for three weeks, had become rational. When asked about having used any other than the hydrant water, she stated that she always used the cistern water to clean her teeth, and had also used it in a nasal douche, and in spraying her throat. The brother and the student also remembered that they had occasionally drank the cistern water.

The examination of the water was immediately undertaken, and it was found to be exceedingly bad chemically, and in number and kind of



germs. The stools of two of the patients were then examined, and the same germ found so abundantly in the water was recognized in the stools. Of course, I cannot say that this germ was the cause of the disease. Fortunately, all of these cases finally recovered, and there was no opportunity to examine their spleens. I cannot refrain from mentioning a few facts concerning the symptoms. Delirium was a marked and persistent feature; it was not the low muttering delirium, but wild, causing the patients to attempt to get out of bed. The fever ran forty-two days. There was no eruption over the abdomen.

A sample of water from Wyandotte, Mich., illustrates how a source of infection may continue to spread the disease through months. Dr. E. P. Christian reports eleven cases occurring among those who used the milk furnished by one man. The first case occurred July 13th and the last Nov. 15th. Dr. Christian sent me some of the water from the well of this milkman, also some of the milk. The water was a pure culture of bacillus A, which with three other germs appeared on the plates made from the milk; while from the organs of the animals inoculated with the milk, bacillus A in pure culture was obtained.

Bacillus A, as obtained from water, differs from Eberth's germ in the following particulars:

(1) It is somewhat shorter and thicker than the Eberth germ which I obtained in the hygienic institute of Berlin. In the majority of the samples the length is about twice the breadth.

(2) The readiness with which the ordinary stains (as Bismarck brown) are taken is very variable; the germs from some of the waters taking the stains readily, while others are not so deeply stained as the Eberth germ.

(3) It is stained by Gram's method.

(4) It forms a plainly visible, white, raised, moist growth on potatoes.

(5) The colonies on the gelatine plates are very uniform, quite generally spherical, and never spreading over the surface.

(6) It grows on gelatine plates more rapidly than Eberth's germ.

(7) Its toxicogenic properties are greater than those of the Eberth germ.

I have studied the effect of heat on this germ in the following manner: A man, while drunk, fell down stairs and fractured his skull, from

which injury he died in about three hours. The spleen was removed with aseptic precautions. With sterilized knives it was cut into pieces, which were placed in sterilized Esmarch dishes. Three pieces were inoculated with bacillus A from as many different sources, two with bacillus B, and one piece was left without inoculation. The dishes with their contents were placed in an incubator and kept at from 39° to 40°. Plate cultures were made from these pieces from time to time, and the germs thus obtained were compared with the bacilli as obtained from the water, and with Eberth's germ. The plates from the uninoculated piece of spleen have invariably remained sterile, showing that the organ contained no germs. As these cultures were made from time to time, the above mentioned peculiarities of growth, by which bacillus A had been so easily distinguished from Eberth's germ, were found to become less and less prominent, and finally they have so far disappeared that they can no longer serve for purposes of distinction between the organisms. After only seven days bacillus A has been so altered that its growth on potato can no longer be distinguished from that of the Eberth germ, with which the comparison was made. Bacillus A becomes less and less receptive to the ordinary stains, and I will show you slides made from the spleen after fourteen and sixteen days which have not taken any of the aniline stains, not even the carbolic fuchsin, as deeply as the Eberth germ. This is true even after the altered bacillus A has been exposed to the stain for seventy-two hours, while the Eberth germ was exposed less than five minutes to the same stain. Gram's method ceases to produce positive results. The length of the germ increases in proportion to its breadth, and in some cases long filaments have appeared. I have been much impressed in carrying on this work with the longer time necessary for colonies to develop on plates after heating the germ. It is generally stated, and I had always, before making these experiments, believed, that pathogenic germs develop more tardily than the ordinary saprophytic ones; but the longer this germ is kept at a fever temperature, and the higher that temperature is, the more tardily do the colonies appear on the gelatine plates. In short, I have been forced to the conclusion that the so-called

characteristics of Eberth's germ are not inherent in the organism, but result from the effects of the environment under which the organism has grown in the body.

Bacillus B. : This is also a short motile rod, which in cultures from four to six weeks old shows some liquefaction of the gelatin. It is certainly a slowly liquefying germ. It sometimes forms gas along the line of the stick. This occurs, if at all, during the first few days of growth, and long before liquefaction begins. It forms a white, raised growth on potato. The ordinary stains are taken readily, and Gram's method yields positive results. This germ agrees very closely with bacillus A in its pathogenic properties and in the *post mortem* appearances induced, so closely, indeed, that it will not be necessary to repeat details. This germ has, in the few instances in which it has been tried, failed to kill rats when inoculated subcutaneously, though it is fatal to guinea-pigs when employed in this manner. The plates prepared from the organs of animals killed with this germ have invariably yielded numerous colonies. The germ is also found in the blood.

As has been stated, bacillus B was subjected to the same line of experimentation as A, with practically the same results, and a detailed repetition is not necessary. It should be remarked that the chief points of difference between A and B, as well as those between these and Eberth's germ, have disappeared in B, as obtained from the pieces of spleen. Stick cultures in gelatine tubes have not been found to generate gas or to liquefy gelatine.

From these experiments I must conclude that the evidence of the existence of a specific and individual germ which is the sole and only cause of typhoid fever is not at present conclusive. On the contrary, I am strong in the belief that there exists a family or class of germs, any one of which may cause the essential symptoms and lesions of that disease or group of diseases which we now designate by the name of typhoid fever. It may be that in the future we shall be able to differentiate from the symptoms the diseased condition caused by one of these organisms from that caused by another ; but at present we are unable to do so.

It seems to me that the view expressed above is supported by the clinical history of the disease.

As has been already remarked, the symptoms of this disease do not show the constancy and invariability characteristic of a truly specific disease, such as anthrax or small-pox ; but on the other hand, the symptoms show marked variations in their appearance and in their gravity.

I may state that I do not stand alone in questioning the specific nature of Eberth's germ. Some months ago Rodet and Roux<sup>35</sup> found that the bacterium coli commune, when cultivated at a temperature of 44° to 46°, undergoes changes which cause it to bear a remarkable resemblance to Eberth's germ, and they conclude from their work that the latter is only a degenerative form of the former. If this be true, the stools of healthy persons, when they contaminate our drinking-water, may cause typhoid fever, and the existence of a preceding case is not necessary in order to cause the disease.

Chantemesse and Vidal<sup>36</sup> state that Eberth's germ will grow on gelatine containing 0.25 per cent. of carbolic acid, while all other water germs fail to grow on this medium. They therefore propose this as a method of isolating the typhoid bacillus. Such gelatine was prepared, and tubes inoculated with A, B, and Eberth's germ were poured on plates. A and B grew more vigorously on these plates than did the Eberth bacillus. The growth of the Eberth germ was markedly retarded, while that of the others was not.

Thonoit<sup>37</sup> modifies the above test by adding the carbolic acid to the water to be examined, and after a time inoculates ordinary gelatine with the water. He claims that after this treatment only the Eberth germ will develop. This test was applied to natural waters containing A and B, and their development was not affected. The water was allowed to stand three hours after the addition of the carbolic acid.

Holz<sup>38</sup> prepares a gelatine from the expressed juice of raw potatoes, and claims that the Eberth germ will grow on this medium while all similar organisms fail to do so. Such gelatine was prepared according to the directions given by Holz, and on this A and B grew beautifully.

I may remark, in conclusion, that it seems very strange to me, after going over the literature of the subject, that so much stress should have been placed, by the compilers of books, on the means of recognition of the so-called Eberth germ by

its behavior towards staining agents. This so-called characteristic is not warranted by the statements of the original investigators. It is true that Eberth makes this an important means of recognition, and states that the bacillus is not colored by Bismark-brown and hæmotoxyl<sup>n</sup> and only slightly by the other ordinary stains; but what is the verdict of others on this point? In the paper in which he calls attention to the fact that he had photographed the short bacillus before Eberth had published his discovery, Koch says: "Eberth states that these short bacilli have but slight tendency to take stains. The photograph here given shows to the contrary, that in taking stains these bacilli are but slightly inferior to other bacteria." Fischel stained easily with hæmotoxyl<sup>n</sup>. Coats<sup>39</sup> had no difficulty in staining with Bismark-brown. Gaffky states that the best color is methylen-blue, but that the bacilli are stained very well (*sehr gut*) with methyl-violet, gentian-violet, Bismark-brown, and fuchsin, and less well by hæmotoxyl<sup>n</sup>. Meyer<sup>40</sup> had the same difficulty in staining reported by Eberth; but Friedlander<sup>41</sup> found that the bacilli in the sections stained intensely (*intensiv*).

The conclusion which necessarily follows is that either the action of the organism towards stains is variable and dependent upon conditions, or the majority of the above-mentioned investigators were working with germs which were not identical with those of Eberth.

Since the above lecture was given, a very valuable paper on the "Variability and Varieties of the Typhoid Bacillus," by the distinguished bacteriologist, Babes,<sup>42</sup> has appeared. This paper in part confirms and in part complements the work reported in the lecture. The chief points made in the paper may be stated as follows:

(1) The bacillus varies in size and appearance according to the culture medium on which, or the temperature at which, it is grown.

(2) Many of the saprophytic bacilli stain as feebly in Gram's method as the typhoid germ.

(3) The growth on potato is not always invisible, and many other organisms do form an invisible mould; therefore this test is not characteristic.

(4) The flagella discovered by Löffler are not characteristic.

(5) There is nothing characteristic in the effects upon the lower animals. The "typhoid-like" bacilli are more highly pathogenic than the typhoid germ.

(6) He has found in a case of dysentery, in the body of a mouse dead from an unknown cause, and in water, germs which give all the so-called characteristic reactions.

(7) He has found in twelve *post mortems* of typhoid subjects germs, all of which respond to the characteristic tests, but which differ from one another.

(8) In all of these cases, with one exception, he finds what he calls the typical typhoid bacillus along with atypical ones. This "typical" germ is not identical with that obtained from the Berlin Hygienic Institute, and among its properties are two which other bacteriologists would deem sufficient to exclude it from any possible connection with the typhoid germ. These are: (1) it evolves a putrefactive odor\*, and (2) old cultures on potato are brown.

(9) Although he has been unable to convert any of the varieties into the typical germ, he has seen the differences grow less marked. (We are not told what means he has used to influence the properties of the germs.)

(10) A very important statement is made by Babes, but upon this he lays no stress. It is that he has found some of the varieties outside the body (in drinking-water), but the typical germ has been found only in the bodies of those dead of typhoid fever. The facts given in the lecture will probably explain this statement.

(11) Animals inoculated with the atypical germs die more certainly (*i.e.*, a larger proportion of them die) and more rapidly than those inoculated with the typical germ. Exactly the same changes are found after death.

How Babes can conclude, after all this valuable work, that his typical germ is the sole cause of the disease, I cannot understand. It is true that he indirectly implies that other germs might cause the disease, because he constantly speaks of his typical germ as "the typical germ of our cases."

In again concluding, I wish to say that it seems very evident to me that the belief that typhoid fever is due at all times to one and the

\*Neither A nor B give off any putrefactive odor, even after the pieces of spleen, described in the lecture, were kept in the incubator for two months.



same germ, which can be recognized to the exclusion of all others by certain peculiarities in staining or in manner of growth must be abandoned.

## LITERATURE.

1. Eberth : Virchow's Archiv, 1880 u. 1882.
2. Koch : Mittheilungen ans d. kais. Gesundheitsamts, B. 1.
3. Browicz : Birch-Hirschfeld's Lehrbuch der patholog. Anatomie.
4. Sokoloff : Virchow's Archiv, B. 66.
5. Fischel : *Prager Medicin. Wochenschrift*, 1878.
6. Gaffky : Mittheilungen ans d. k. Gesundheitsamts, B. 2.
7. Frankel and Simmonds : *Centralblatt f. Klin. Med.*, 1883.
8. Rietsch : *Jour. de l'Anat. et de la Physiologie*, 1886.
9. Kowalski : International Congress for Hygiene, 1887.
10. Chantemesse and Vidal : *Archives de Physiologie*, 1887.
11. Curschmann : Verhandlung d. Congress f. Innere Med., 1886.
12. Zenher and Hoffmann : Veränderung im Abdominal Typhus.
13. Reher : Archiv. f. Exper. Pathol. et. Pharmacologie B. xx.
14. Neuhaus : *Ber. Klin. Wochenschrift*, 1886.
15. Meisel : *Wiener Med. Wochenschrift*, 1886.
16. Maragliano : *Centralblatt f. Med. Wissenschaft*, 1888.
17. Dreyfuss—Brisac and Vidal, *Gaz. Hebdom de Med.*, 1886.
18. Michael : *Fortschritte der Medicine*, 1886.
19. Mers : *Centralblatt f. Allgemeine Gesundheitspflege*, 1886.
20. Loir : *Annales de l'Institut Pasteur*, 1887.
21. De Blasi : *Revista Interna di Med. et Chir.*, 1887.
22. Galbucci : *La Riforma Medica*, 1886.
23. Beumer : *Deutsch. Med. Wochenschrift*, 1887.
24. Banti : *La Riforma Medica*, 1887.
25. E. Frankel and Simmonds : *Zeitschrift f. Hygiene*, B. 2.
26. A. Frankel : VI. Congress f. Innere Med.
27. Seitz : *Bacteriologische Studien z. Typhus Ätiologie*, 1886.
28. Beumer and Prifer : *Zeitschrift Hygiene*, B. 2.
29. Sirotin : *Zeitschrift f. Hygiene*, B. 1.
30. Baumgarten : *Lehrbuch d. Patholog. Mykologie*.
31. Welch : *Jour. American Med. Ass.*, Dec. 14, 1889.
32. Brautlecht : *Virchow's Archiv*, B. 84.
33. Semmer : *Virchow's Archiv*, B. 112.
34. Flugge : *Die Mikro-organismen*.
35. Rodet and Roux : *Compt. Rend.*, 1890.
36. Chantemesse and Vidal : *Gazette des Hopitaux*, 1887.
37. Thonoit : *Gazette des Hopitaux*, 1887.
38. Holz : *Zeitschrift f. Hygiene*, B. 8.
39. Coats : *Brit. Med. Journ.*, March 13, 1882.
40. Meyer : *Inaug. Diss.*, Berlin, 1881.
41. Friedlander : *Fortschritte der Medizin*, 1883.
42. Babes : *Zeitschrift f. Hygiene*, B. 9.

## KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT.

Communicated from Berlin to the University of Toronto.

To-day's number of the *Deutsche Medicinische Wochenschrift* is memorable by containing the continuation of Koch's communication on a cure for tuberculosis. The substance of this article has no doubt been telegraphed already to the American papers, with the same detail as was that of the first article two months ago.

After premising that the experience of those who have tried the lymph confirms the statements made by him in regard to it, he describes

the observations which led to its discovery. He found that the local ulcer which characterises the point of inoculation in experimental tuberculosis followed a very different course in a healthy guinea-pig, inoculated for the first time, from that which it does in one already tuberculous. In the former, it does not heal ; in the latter, it does ; the tubercle bacilli not finding favorable conditions for propagating themselves. These unfavorable conditions—or, in other words, immunity—can also be produced in a healthy animal by the injection of cultures of dead tubercle bacilli. Such cultures, innocuous to a healthy animal, are, in the same quantities, *fatal* to a tuberculous one ; while in very much reduced doses they lead to the destruction of tuberculous tissue, and to an eventual cure.

Thus was indicated the direction in which to work. The substance which exercises such a remarkable effect on tuberculous tissue was evidently one which could easily be separated from the dead bacilli. Experiments were made with extracts of pure cultures of the bacilli, treated with 40 to 50 per cent. glycerine, and the result was the now celebrated lymph.

From such extracts the active ingredient can be separated as a colorless dry substance, which is insoluble in absolute alcohol, is not destroyed at temperatures which destroy the toxalbumins, and diffuses easily through an organic membrane ; but the use in practice of this concentrated substance has no advantage over that of the glycerin extract. The hypothesis formed by Koch as to the mode of action of the substance in question is essentially that indicated by Buchner, and cited in a previous letter.

It has the power of killing living protoplasm when sufficiently concentrated ; the symptoms following injection in a healthy person result from this action—perhaps on the leucocytes ; but the necrotising power has much more effect on tubercular tissue which is already half dead, and therefore leads to its complete death and to interference with the proper nutritive conditions of the bacilli if they remain shut up within the dead tissue. Thus indirectly the substance has also the power of affecting the bacilli, causing them to fall into heaps of coccus-like granules.

It is unnecessary to say that (with the exception of the use of glycerine to extract the cultures) all that Koch has disclosed was already

taken for granted. Without further details as to the culture medium employed and the methods adopted to secure a constant strength, it is regarded as quite certain that would-be imitators have a long and arduous research in front of them before they can venture to experiment on man. It is surmised that these details will be, in the meantime, withheld. Great preparations are being made for the manufacture of the lymph *en gros*. Special large incubating chambers, adapted to the peculiarities of the tubercle bacillus, are being made, and thousands of small Ertenmayer flasks have been ordered.

It was expected that Koch might make his announcement last night at the Medical Society, and that some one would take up the cudgels for the Koch cure in opposition to Virchow. The large hall was crowded in consequence, but comparatively little of interest took place. Guttman spoke of the favorable aspect of affairs at the Moabit, and undoubtedly made the greatest impression of the various speakers. Bernhard Frankel also defended the treatment and exhibited some cures, but Albert Frankel narrated a depressing case of a patient with apical affection on both sides, who in the course of treatment improved, as far as the lungs were concerned, but acquired a very serious tuberculosis of the tongue, which Frankel did not hesitate to describe as metastatic and subsequent to the treatment. Psaginsky brought forward a somewhat similar case of a young woman who had acquired lupus of the nose through using her consumptive sister's handkerchief. For nine years the affection has been distinctly local, but in the course of treatment tubercular patches appeared on the left tonsil.

It is obvious that such complications are not necessarily ascribable to the treatment, but the attitude of these speakers seemed to be unfavorable to Koch. Virchow had some more pathological material of the character which he exhibited last Wednesday, but he also showed the lungs of a case of catarrhal pneumonia of the same character as he had previously been inclined to attribute to the injection, but which had not been subjected to the Koch treatment, and so he was obliged to retire partly from his position in this respect.

I trust you have safely received the very large consignment of lymph which I sent you on

Saturday, and that as favorable results may be obtained with it in Toronto as here in the Moabit.

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## Selections.

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### TETANOID CONVULSIONS IN AN INFANT; OPERATION : RECOVERY.

BY T. R. RONALDSON, M.B., F.R.C.P. ED.

The child whose case forms the subject of this short paper was born on the 8th of Dec., 1886. He was a strong, well-nourished boy, above the average size and weight, and the third child. The labor was easy and normal in every way. The umbilical cord was unusually thick, from an excessive development of Wharton's jelly. The mother nursed the child from the beginning, and continued to do so until the usual time for weaning, no other food than her milk being required.

After my visit on the 17th December, when the child was nine days old, it was first noticed that there was something wrong. At times the child cried and was restless, the left eye winked, the muscles of the left side of the face twitched, and the left side of the tongue swelled up in marked contradistinction to the right side. These symptoms began so slightly and progressed so quietly that the mother and a most intelligent nurse did not think it necessary to send for me until the 19th, two days after the onset of the illness. Having been informed of the nature of the attack, and knowing how healthy the child was, and that the umbilical cord had not separated although it was the eleventh day, I began to connect the case, as I proceeded to pay my visit, with those cases of tetanus we read of as occurring so frequently among babies in certain countries, and whose starting-point seems to be the neglected or badly taken care of umbilicus. On my visit I saw no reason to doubt the accuracy of the opinion I had formed. The child was, apart from the convulsions, the picture of health, well-nourished, with digestion perfect, and with evacuations natural in quantity, quality, and frequency. The anterior fontanelle was somewhat fuller than usual, but that was entirely from the exceptionally well-nourished condition of the child. The temperature was normal,

and continued so throughout the attack. The only unusual condition, apart from the convulsions, was that the cord had not separated. There was a distinct putrefactive odor about the black dried-up cord, but to the eye there was nothing to be seen but the usual amount of ulceration at the line of demarcation between the dead cord and the umbilicus. There was no inflammatory blush, no swelling, no unusual tenderness. At that time the convulsions were confined to the left side of the body; restlessness led on to tonic muscular contraction, and that was succeeded by well-marked clonic convulsions. Between the attacks the child was apparently perfectly well. I gave it as my opinion that probably the convulsions arose from some irritative condition at the umbilicus. I completed the separation of the cord with scissors, gave directions that the stump should be carefully washed at intervals with corrosive sublimate solution, and dressed with zinc ointment; ordered one drop of chlorodyne to be given, mixed with water in six doses, and expressed the hope that, as the supposed irritation at the umbilicus subsided, the fits would disappear. The fits got worse; bromide of potassium and chloral, given up to 6 grains of the bromide and 4 grains of the chloral in twenty-four hours, had no effect whatever in subduing their number or severity; nor had chlorodyne, two minims every four hours; nor had the local application of a 20 per cent. solution of cocaine, nor of the solid nitrate of silver. Warm baths increased them; they extended soon to the right side, and ultimately the whole muscular system was involved. They increased to the number of 204 in the twenty-four hours, while during their occurrence the tongue became blue-black, and at times well-marked opisthotonos supervened. On one occasion they were never absent for one whole hour, and for a period of nine hours the child was unable to suck in consequence of the frequency of the fits. When they did not come too rapidly, it took its nourishment greedily. They varied in frequency—from about 100 to 204 in the twenty-four hours—but not in such a way as to warrant us in believing that treatment, local or general, had any beneficial effect.

Dr. Brakenridge, who saw the child with me on 24th December and subsequently, confirmed

my diagnosis, giving it as his opinion that the convulsions were not due to any disease originating in the brain, but that they were peripheral in their origin, and probably had the umbilicus as their starting-point. Meanwhile, in spite of treatment, and although the navel stump was quickly and nicely healing, the fits went on, and we asked Mr. Chiene to see the child with us on 27th Dec., to help us in deciding whether the umbilicus should be excised. Mr. Chiene's opinion was that the condition was allied to tetanus, and he advised that before excision was had recourse to, a more thorough antiseptic treatment of the stump should be tried. All medicine was stopped, and iodoform was carefully and diligently applied to the navel stump.

As no improvement resulted, chloride of zinc solution (40 grs. to 5j.) was thoroughly applied on the 29th. That failing to benefit, Mr. Chiene consented to excision, and on the 31st December, I freely and deeply excised the umbilicus. At once there was improvement, and the fits gradually decreased.

From 8 a.m., 4th January, 1887, until the evening of the 5th, they entirely ceased, but on that evening they again began. Next day I removed three silkworm-gut stitches, which were apparently a source of irritation, as evidenced by an inflammatory blush around them, and the fits again began to decrease in number and severity, while at the same time the child slept more and took its nourishment better. As they did not entirely disappear, and as the nurse had previously noticed that the child was distinctly better at the time when, after the employment of carbolic lotion during the operation, the urine was dark colored, Dr. Brakenridge suggested the use of sulpho-carbolate of soda internally. On the 13th January it was prescribed in 4-grain doses every two hours. That quantity, however, upset the digestion, and the fits increased. The dose was accordingly diminished. The fits again disappeared, but they began to return mildly on the 25th January, and reached the number of twenty-three in the twenty-four hours on the 27th January, and sulpho-carbolate, which had been given up, was again administered. On this occasion the fits were not so severe, and after the first day or two they only affected the eyes and mouth, gradually becoming slighter. On the 30th January one slight fit ended the



attack, and the child has been in good health ever since. Dr. Edington, who kindly examined the excised umbilicus, did not detect any special organism in it.

In remarking on this case I do not feel that I am called upon to try to decide the question whether the convulsive motor phenomena were due simply to peripheral irritation, or to the presence of some specific organism which had gained entrance at the umbilicus. I must leave the decision of that question to pathological experts.

As to the effect of treatment, my friend Dr. Brakenridge, if I remember rightly, was of opinion that, in the first place, absorption of carbolic acid by the wound; and, in the second place, the administration of sulpho-carbolate of soda internally, had a distinct influence for good. My own opinion was that the excision of the umbilicus determined the recovery.

And, lastly, the occurrence of such a case raises the question whether the umbilical cord of newly-born children should not be treated more carefully than it generally is. I am in the habit now of tying the cord with thread soaked in corrosive sublimate solution, of directing the nurse to wash the cord with the same, then to surround it with sublimated wool, and, to bathe it with the solution from time to time should any putrefactive odor occur.—*Edin. Med. Jour.*

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## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

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TORONTO, FEBRUARY 16, 1891.

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### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The annual meeting of this society for this year was held at Albany, on Feb. 2, 3, and 4. It is one of the oldest medical associations on this continent, this being the eighty-fifth annual

meeting. Its organization is complete in all respects. Representatives from the various county societies are regularly elected, and generally make it a point to attend the meetings. Certain powers are given to the society by the State Legislature, corresponding to a certain extent with those given to the Ontario Medical Council by our Government.

The society is showing a commendable desire to raise the standard of medical education in New York, and through its influence an act has been passed by the State Legislature authorizing the establishment of a central examining board. This meets with a certain amount of opposition, which causes considerable trouble in properly carrying out the details. It will probably be some time before their methods of conducting examinations for a license to practise are equal to our own.

The meeting this year, under the Presidency of Dr. W. Warren Potter, was highly successful. In comparing it with the meetings of the Ontario Medical Association, we noticed that the proceedings were pushed along at almost railroad speed. For instance, the first morning session commenced at 9.15 o'clock, and its programme included the President's inaugural address, appointments of committees, executive business, and eleven papers. It will probably be a surprise to members of Canadian associations, who see practically nothing done on the first mornings, to learn that this programme was completed. The list of papers was a long one, and the committee decided to limit the time to ten minutes for ordinary members, and fifteen minutes for visiting members. The papers were good, but the discussions were limited in number and rather poor in quality, with two or three exceptions. It seemed somewhat remarkable that they should attempt so much work without dividing into sections.

All questions referring to matters not connected with the reading of papers were referred to committees, and much valuable time was saved thereby. They have an annual banquet which is managed in a very sensible way. It costs one dollar per head, and each member pays for his own ticket. It commences at the end of the evening session, at 9.30. The bill of fare includes a light meal and a glass of claret. Apart from this, the members may order as they

please. The after-dinner speeches on this occasion were remarkably good, being, as a rule, bright, witty, and brief. Among those who shone in this particular line were the genial and popular President; two of the most gifted sons of the sunny south, Dr. McMurtry, of Louisville, Kentucky, and Dr. Davis, of Birmingham, Alabama; Dr. St. John Roosa, of New York; Dr. Reed, of Cincinnati; and representatives of the local clergy.

The members extended to their guests a generous hospitality. The visitors from Canada, Drs. J. F. W. Ross and A. H. Wright, of Toronto, were entertained in royal style by the President and the good people of Albany.

### FORCIBLE DILATATION OF THE CERVIX UTERI.

We had occasion to refer to the dangers connected with this operation a short time ago, in commenting on a paper written by Dr. Joseph Price, of Philadelphia, on the subject of minor gynecological operations. We have recently received from Dr. Howard Kelly, of Johns Hopkins University, an article reprinted from the *American Journal of Obstetrics*, which gives a report of a death caused by a uterine dilator. Dr. Kelly was called in consultation to see a case in which a uterine dilator had been introduced four days before. The patient had all the symptoms of septic peritonitis. A laparotomy was proposed, but the attending physician objected, because he thought the patient's condition could not be very serious, as she was suffering so little pain.

Five days afterwards the abdomen was opened, when the prospects of recovery were almost nil. Fluid gushed out when the opening was made—about one quart of fetid bloody serum mixed with flakes of lymph. There was extensive peritonitis, involving all of the smaller intestines. Death ensued in a few hours. The uterus was found slightly enlarged from a pregnancy in the third month; it was acutely anteverted, and the dilator had been pushed through the posterior wall of the cervix into the peritoneal cavity.

Dr. Kelly says, in commenting on this case: "He who runs may read. The lesson taught by this awful tragedy is a plain one. The first

objection is manifestly not against dilators in general, but against those dilators which end in a sharp point, and are strongly curved in the dilating blades. The liability to perforate an anteverted uterus with such an instrument is so manifest, that I cannot help thinking that this accident has occurred more than once. A further objection is against the manner of inserting the dilator—*force should never be employed.*"

The doctor then goes on to describe the proper methods of using this modern abomination. His directions are good in a way, but we think that suffering humanity would lose but little if the dilator were calmly consigned to oblivion. In skilled hands the instrument may do good in a few cases, but the dangers connected with its use are so serious at all times, that the novice should consider that he is assuming an awful responsibility in employing it in any case.

### KOCH'S LYMPH IN TORONTO.

Experiments with Koch's lymph, in the treatment of tuberculosis, are being conducted with much care in the General Hospital, and in the Hospital for Sick Children, in Toronto. The results will be published shortly, but are not very pronounced up to the present time, excepting in a limited number of cases. In a general way we may say that lupus, when not too far advanced, is much benefited by the injections. The prospects are fairly good in the treatment of tubercular glands and joints. Pulmonary phthisis appears to be the least amenable to the treatment, but it is hoped that a few cases, where the disease is in the first, or early part of the second stage, are showing gradual but certain signs of improvement.

We are pleased to know that great care is being exercised in the proper selection of cases, and extreme caution is being observed in the dosage, especially where the lungs are involved. It will require months to fully investigate the results, but we feel confident that they will prove favorable in certain varieties of tuberculosis. The authorities of the University of Toronto are still sending supplies to various parts of the province, but the use of the lymph is still confined exclusively to hospital practice.

## Meeting of Medical Societies.

### THE TORONTO MEDICAL SOCIETY.

Jan. 8, 1891.

The President, Dr. Spencer, in the chair.

Dr. Grasett exhibited a series of specimens of

#### VESICAL CALCULI.

Seven large faceted calculi had been removed from a male patient, æt. 51, by the operation of lateral lithotomy. The man had suffered from symptoms of vesical calculus for fourteen years, but not until latterly, when the pain and discomfort became almost unbearable, would he consent to an operation. The aggregate weight of the seven calculi was just short of half a pound.

#### KOCH'S TREATMENT FOR TUBERCULOSIS.

Dr. Bingham made a communication to the society, giving an account of the impressions he had formed whilst studying the cases under Koch's treatment in the New York hospitals. Seventy-five per cent. of these were lupus cases. He described the symptoms which indicate the reaction after injection, and then proceeded to refer to the effect of treatment in the various manifestations of tubercular disease. In phthisis, all the cases seen were incipient; the swelling which occurs as a local effect of the injection causes great dyspnœa in laryngeal phthisis and almost makes tracheotomy necessary, but it soon subsides, and diminishes at each subsequent injection. The reaction is more marked in lupus than in other cases of tubercular disease. A case of tubercular prostate, which was complicated with a supra-pubic fistula, was much improved under treatment, and after eight injections the urine passed almost entirely by the urethra. The remedy was tried in a case of leprosy: after the fourth injection, the face assumed a shade two degrees lighter than formerly; the trunk and extremities became mottled, in consequence of patches of healthy tissue occurring among the leprosy. In a case of doubt in the diagnosis between lupus and tertiary syphilis, a typical reaction was obtained.

Dr. Sheard referred to the indications for and against the employment of the remedy, and condemned the practice of submitting patients far advanced in phthisis to the treatment. He then referred to two cases under treatment in

the General Hospital. In the case of incipient phthisis, the sputum was not increased in amount; it was not examined for bacilli. Before injection there were rales to be heard at the right apex, and there only; twenty hours after injection, rales were developed all over the left lung; at the right apex were coarse crepitations and tubular breath sounds. In the second case, that of lupus of twenty years standing, there is a marked reaction, consisting of swelling and injection of the cicatricial tissue; since the injection, the highest temperature has been 99.6 F. In speculating as to the nature of Koch's fluid, Dr. Sheard stated that from a study of the symptoms presented during reaction, one would be inclined to look upon the effect as an induced form of septicæmia.

Dr. Price Brown called the attention of the society to the efficacy of chloride of gold in the treatment of phthisis. This method has recently been suggested by Messrs. Gibbs and Shurly of Detroit.

Jan. 15.

The President, Dr. Spencer, in the chair.

Dr. Oldright presented a specimen of

#### (a) PERFORATION OF THE INTESTINE OF TRAUMATIC ORIGIN.

The man was said to have been kicked on the belly; he walked home after the injury, and subsequently developed symptoms of peritonitis; an operation was thought advisable, but he suddenly became collapsed and died thirty-six hours after receiving the injury. A *post mortem* examination revealed injection of the peritoneum, intestines glued together, deposits of lymph and a large quantity of pus in the peritoneal cavity. On the ileum, six or seven inches from the cæcum, was found a rupture seven-eighths of an inch in length on the anterior aspect of the gut. A second specimen was presented by Dr. Oldright,

#### (b) PORTION OF A NEEDLE REMOVED FROM THE KNEE-JOINT.

A child, four years old, drove a darning-needle into her knee by falling upon it. After cutting down upon it, the needle was found to have been driven into the upper portion of the tibia, and in the efforts to extract it a portion was left behind embedded in the bone.



## (c) MILKY FLUID FROM A CYST OVER THE OLECRANON.

Dr. Oldright removed this from a patient suffering from rheumatism. The nature of the fluid had not been determined. A precipitate is thrown down on heating, which is dissolved by adding nitric acid. Under the microscope, there were no pus cells found.

Dr. Atherton referred to the case of a man who received a kick on the abdomen, causing a rupture of the duodenum. He walked half a mile after the accident, and lived thirty-six hours.

Dr. Peters asked how it was that rupture could occur in the ileum as the result of a blow on the abdomen. There is no portion of the bowel more freely movable than the ileum, and its contents are usually of a fluid character. If the injury had been severe and great pressure had caused compression of the bowel against some resisting surface of bone, then the cause of rupture would be evident.

Dr. McPhedran narrated the history of a man who received a kick on the abdomen; there were no external marks of violence; he lived from thirty-six to forty-eight hours. Blood was found extravasated about the head of the pancreas, and a rent in the peritoneum at that locality permitted blood to be effused into the general peritoneal cavity. The intestines and stomach were bruised.

Dr. Oldright, in reply, suggested that the rupture of the intestine may have been due to a knuckle of bowel becoming constricted, on receiving the injury, the contents of the gut imprisoned, and the force continuing to act, would cause the wall of the intestine to give way.

Dr. Powell exhibited a patient affected with lupus who is at present under treatment in the Toronto General Hospital. Four injections have been given; there is evident softening of the cicatricial tissue.

Dr. A. A. Macdonald presented

## A SPECIMEN OF FETUS

dead at the third month carried until the fifth month. Some years ago the woman came to him with a history of several miscarriages; she had a uterus large and flabby, and she suffered from menorrhagia. She improved under treatment, became pregnant, and carried a child to full term. About five months ago the menses

ceased and she thought herself pregnant, but she did not increase in size. Three months after she suffered from a slight discharge; this continued, and at the fifth month pain occurred and she sent for Dr. Macdonald, who, on examination, found the fetus lying in the vagina; there was no placenta; the cord was twisted twice around the neck of the fetus. In this case probably there was degeneration of the placenta and death of the fetus in consequence; the placenta probably came away in fragments. The patient made a good recovery.

## FLESHY MOLES.

Dr. Macdonald also presented two specimens of blighted ova, one at the second month, the other of three months growth. These moles he looked upon as the changed product of conception. The patients were of poor, weakly constitutions, and the debilitated state of the individual is probably accountable for the condition.

Drs. Baines, Dame, Atherton and Spencer discussed the cases, and Dr. Macdonald replied.

Dr. Dame then showed specimens of

## HORNY GROWTHS ON THE PENIS.

These had occurred in a man who had been circumcised. A warty substance occurred six years ago, from which the two horns developed; he pared it regularly. Dr. Dame amputated a portion of the penis with the growths. The horns were situated on the under surface near the glans; the longer was two inches in length.

Dr. Primrose referred to a case of the kind which he had seen under the care of Mr. Pearce Gould. A warty growth had appeared on the margin of an ulcer which existed in the line of an old circumcision wound; a horn developed in front of this. The penis was amputated and several indurated glands in the groin were excised. The ulcer proved to be epitheliomatous in character. Jewitt reports a case in which a horn three inches in length existed. According to Gould, horns may grow (1) from the interior of sebaceous cysts; (2) from the matrix of the nail; (3) from warty growths.

Jan. 22.

The President, Dr. Spencer, in the chair.

Dr. J. D. Thorburn read a paper on

## KOCH'S TREATMENT FOR TUBERCULOSIS.

He gave an account of his experience whilst observing the effects of treatment in the Berlin hospitals. He referred to the work which is at

present being done in Koch's laboratory by Professor R. Ramsay Wright. The almost universal distribution of tubercular disease in all parts of the civilized globe was graphically demonstrated by Dr. Thorburn on a map of the world, specially prepared for the purpose. The reaction following the injection of Koch's fluid was described and local effects minutely detailed. Von Bergmann strongly advises that the lungs should be carefully examined in a case of lupus which is to be submitted to treatment. An instance was cited in which a patient was treated for lupus; pulmonary disease was not suspected; a marked reaction, however, subsequently evidenced extensive lung trouble. The necessity of operating, especially in joint disease, is insisted on by some for the removal of necrotic tissue. One of three things may happen if operation be not undertaken: (1) the necrotic tissue may be absorbed and the bacilli carried to other parts of the body; (2) the skin and superficial tissues may slough, and the necrotic tissue may in this way be cast off; (3) if not absorbed nor cast off, it may remain as a cheesy mass, and poison may be absorbed from it.

Dr. Palmer asked if the swelling were alarming or dangerous in the local reaction in the larynx where neither tracheotomy nor intubation had been performed. The swelling, though great, is said by some to be peculiar and sometimes causes an unfolding of the larynx, thus relieving stenosis.

Dr. McPhedran stated that there was a good deal of reaction of opinion in some localities against the Koch treatment. In London, for instance, some of the physicians are very skeptical. The treatment certainly does cause improvement in some cases. At present, Dr. McPhedran would not urge any tubercular patient who is doing well and gaining ground to submit to Koch's treatment. It is a question whether or not the dangers are not greater than we suspect; certain cases of death in early phthisis have been recorded. If we have cases of phthisis in which no improvement is going on, then we are justified in recommending the treatment. The cases at present under Dr. McPhedran's care in the hospital were then briefly referred to.

Dr. Burns and Dr. Price Brown also took part in the discussion, and Dr. Thorburn replied.

## GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE, MD.

December meeting.

Vice-President Dr. Charles H. Riley in the chair.

Dr. Wm. E. Moseby related the following case:

Mrs. Maggie G., a light-colored woman, about thirty years of age, twice married; had had two children by her first husband. Had suffered much during the past twelve years from dysmenorrhœa; had been unable to do ordinary work.

Examination showed the uterus to be retroflexed and firmly bound down, but the character of the adhesions could not be definitely made out. There was an irregular-shaped elastic mass in the position of either tube diagnosticated as cystic ovaries, together with chronically inflamed tubes. All the pelvic tissues were very sensitive to pressure. There was a deep, double laceration of the cervix and a lacerated perineum, with very lax vaginal wall, but only slight rectocele.

When the abdomen was opened the mass on either side of the pelvis was found to be composed of a cystic ovary and the corresponding tube firmly matted together by old organized adhesions, each mass being firmly bound down to the pelvic wall by numerous strong and many more recent adhesions. There were also adhesions to the omentum. The left ovary ruptured before it could be removed. The mass in the right side appeared to be a large hematosalpinx, but examination showed it to be an ovarian cyst into which blood had entered from a ruptured Graafian follicle. The adhesions behind the uterus were very broad, strong bands, and were pulled off the uterine wall. All possible care was used to secure the patient against hemorrhage, and the abdomen was douched out with hot-boiled water until the return flow was practically colorless. A perforated glass drainage-tube was introduced to the bottom of the *cul de sac*, and the incision closed about it. The extreme difficulty of separating the adhesions and the douching prolonged the operation to about an hour and a half.

Although stimulants and artificial heat were freely used no reaction could be obtained, the temperature never reaching 95°, and the patient died about six hours after the operation.

apparently from shock. At no time was there any discharge of blood or over-bloody fluid from the drainage-tube. Dr. N. G. Keirle, however, kindly examined the pelvic cavity *post mortem*, and reported that death was due to hemorrhage, the exact source of which could not be made out. Dr. J. Whitridge Williams kindly furnished the pathological report, which is given below.

Dr. Thomas Opie exhibited a placenta that he had gotten a few hours before the meeting from

#### A CASE OF PLACENTA PRÆVIA.

The patient was thirty-five years of age, and had borne one child previously. When he saw her first she was blanched and exsanguined. The blood flow began three days before with a loss of a quart, and continued with more or less rapidity up to the time of operation. Her confinement was not expected for two weeks. When first seen by him there were some rhythmic pains and some dilatation. The cervix was dilated with the fingers and cone of the hand; the placenta was detached with a sweep of the fore-finger around the cervix, the bag of waters was artificially ruptured and traction-rod forceps applied. The child was delivered in fifteen minutes without further loss of blood, the placenta coming away simultaneously with the birth of the child. Though the position was occiput posterior, there was no laceration of the perineum, and the child was unscathed. Both mother and child were doing well.

Dr. Opie also exhibited a

#### SPECIMEN OF AN OVARIAN TUMOR

which he had recently removed. The tumor had developed into the epigastric region, and the abdomen was about as large as it would have been at the full term of pregnancy. It took two hours to break up the adhesions, which were very dense between the tumor and the intestines, and between the tumor and the omentum. The second tumor was taken from the pelvis. It was ovoidal in form, about seven inches in length by five inches high, and four inches thick. It was removed entire, and upon section it proved to be a dermoid growth. There was no history of peritonitis to account for the extensive adhesions. The patient had never had a day's discomfort other than from the size of the cyst. She did not know until

four months ago that she had a tumor. The material in the large cyst was colloid. Notwithstanding the extensive adhesions, the length of time consumed in breaking them up, and the injury resulting from the operation, the patient has made a good recovery, this being the seventeenth day after the operation.

Dr. Howard A. Kelly: The term colloid is often used in two senses. An incorrect use, describing the yellowish, more or less opalescent, thick, viscid material often found in ovarian cysts; it is employed in such cases as more or less synonymous with gluey. The other use of the term is to describe a rare condition, in which the contents of the cyst are more like calf's-foot jelly, and have a vitreous fracture; they are with great difficulty removed, clinging to everything. This latter is true colloid, and when found such tumors are of a suspiciously malignant character. We should limit the use of the word to the latter condition.

I wish to refer to two minor matters of interest suggested by this specimen of placenta prævia. The position which the placenta has occupied in the uterus can accurately be determined by the position of the opening in the membranes made by the passage of the child, inasmuch as the fundus uteri must of necessity be just opposite to this perforation. We can, therefore, by reconstructing the membranes, see just in what part of the uterus the placenta lay. In one of my placenta prævia cases there was no hole at all in the membrane, as I had extracted the dead child through a perforation in the placenta. We can do still more than this in the way of a diagnosis with the membranes. By allowing them to be expelled untouched into the bed and carefully noticing their exact position, we can tell as well on which side of the uterus the placenta was attached.

The second point is, that we may have placenta prævia hemorrhage without being able to detect a placental margin, owing to a low attachment of part of the placenta near the internal os below the contraction ring, but not over the whole of the cervical canal. The lower part of a placenta thus attached is separated by the opening up of the lower uterine segment.

Dr. L. E. Neale said: Although Dr. Kelly had alluded to a point of some interest, it is of far more practical importance to recognize



placenta prævia prior to the expulsion, and as far as he knew this could only be done with certainty by digital examination. Partial placental separation and rupture of the membranes during labor in cases of placenta prævia was outlined by Maricean as early as 1668, but was fully described by Puzos in 1759. He saw nothing in the history of the present case as related by Dr. Opie that contra-indicated the method of Broxton Hicks, a method that up to the present time had given by far the best results, viz.,  $4\frac{1}{2}$  per cent. maternal mortality. If this method when practicable could be performed earlier than delivery by any other method, and was not difficult and gave the best results, why not have applied it in the present case?

Dr. Wilmer Brinton asked why Dr. Opie objected to the tampon in cases of placenta prævia; he thought no arbitrary law could be applied.

Dr. Opie said, in closing the discussion, that results of operative procedure depended largely upon the skill and familiarity of the operator with the special operation resorted to; in his first case of placenta prævia he had attended, he had turned and lost both mother and child; with rapid dilatation and forceps he feels that he has command of the situation, and having resorted to that method repeatedly, had gained greater skill and done better work. While Dr. Neale might do better by some other method, he is fully satisfied that he does best himself with the forceps: he is opposed to the use of the tampon because it conceals what is going on; it is best not to wait for pains; he is in favor of rapid dilatation and delivery in placenta prævia, in puerperal eclampsia, and in abortion; to put in a tampon and go away is hazardous; the tampon is of very little help in hemorrhage.

Dr. Kelly read a paper upon

#### THE EXAMINATION OF THE NORMAL PELVIC VISCERA,

describing various carcinoma and trimanual methods of palpating the normal ovary.

Dr. Wm. P. Chunod: When speaking of what should be found or can be found at an examination, it is necessary to consider the circumstances under which the examination is made. Office examinations are the most usual, and all the facilities are not usually at our command, and this circumstance should be specified

and taken into account. Certain advantages in methods give certain advantages in results. Of course where the woman has no ovaries, or where the ovaries are not in the pelvic cavity, they cannot be palpated.

Dr. Hunter Robb: I thoroughly agree with Dr. Kelly that the normal ovary can always be palpated under an anesthetic, and also that in a large number of patients the ovary can be outlined without anesthesia. Four years ago Dr. Kelly taught me the method of examining the ovary by invaginating the perineum, and I can testify to its utility. This lengthens out the examiner's finger, and thus enables the practitioner who has a short finger to accomplish it with almost the same facility as a longer one. The corrugated tenaculum, devised by Dr. Kelly, may be used to advantage with nulliparous patients to define the uterus and its appendages still further. No one, of course, would think of using it in inflammatory conditions of the pelvic cavity.

Dr. B. B. Browne said that he had listened with much pleasure to Dr. Kelly's paper, and congratulated him upon the admirable manner in which he had systematized these valuable methods of pelvic examination—methods which most of us had been using in our gynecological practice for several years. He generally preferred the use of two fingers in the vagina, as he could thus make a more satisfactory examination of the tubes and ovaries than with one finger; in many cases a more accurate idea of the adhesions can be had by getting the finger above the ovary and fixing it between the finger and the spinal column; pulling down the uterus aids diagnosis very much.

Dr. Opie said that there were few objections to Dr. Kelly's paper, but it seemed that the elbow on the hip is incompatible with delicacy of touch; the law as expressed by Martin being—"The more lightly the parts are touched the easier the goal is reached, and the less force that is employed the more distinctly things are felt." He thinks it a cruel sort of thing to drag an organ out of its position, and would like to know how much displacement can be made with the tenaculum without producing dangerous trouble; for example, cellulitis, metritis, and injuries to the peri-uterine tissue; he had met a number of cases in which he had not been able

to make out the ovaries; Dr. A. Martin says he can palpate normal tubes, but Dr. Opie has never been able to reach that degree of perfection.

Dr. Neale referred to the possibility of tracing out the ureters through the anterior vaginal wall, as had been demonstrated to him by Dr. Kelly at the Hopkins Hospital clinic; he had no doubt that in a large majority of cases the normal ovary could be displaced out of its normal position and palpated or touched with ease through the vaginal walls; he believed that a great deal of difficulty in an ordinary gynecological examination was due to the fact of neglecting to empty the bladder or to employ the rectal touch.

Dr. H. P. C. Wilson said there were a large number of women in whom he was sure he could not palpate the ovaries, and he was doubtful if any one could do so. The uterus is often found fixed in the pelvis as in a mass of putty, and no definite outlines can be made out; in other cases the abdominal walls are from two to four inches thick with fat, and in such cases he had failed to find the ovaries.

Dr. J. Whitridge Williams said that he could certainly feel the ovaries in four cases out of five, and that he had succeeded occasionally in finding the ureter.

Dr. Moseby: The old teaching is that the ovaries can not be palpated in their normal position. When an ovary can be found by an ordinary examination, its location may fairly be considered as abnormal. If Dr. Kelly's idea, that all men who cannot make out normal ovaries should be thrown out of the specialty, should be enforced, a large number of experienced and thoroughly informed specialists would be excluded from practice. It is practically impossible to examine every patient thoroughly enough to make out the normal ovaries in office examinations. In dispensary and more especially in hospital practice, the case is very different.

Dr. Browne thinks that the cases in which the ovaries can not be felt are the abnormal cases; if the symptoms point to an examination of the ovaries they can be made out, but if necessary an anesthetic should be given.

Dr. Kelly, in closing the discussion, said that he examines every case coming to him, vulva to

ovaries, making a special note of every important organ. When the patient complains of persistent pelvic pain the examination is never considered complete, or the diagnosis sure, without a special note as to the condition of the ovaries. I have been asked about examining the ureters by palpation. They can be felt in almost all cases, being distinctly traced from the anterior part of the pelvic back to the side of the uterus. Pressing upon a diseased ureter causes a desire to pass water, often irresistible. I prove that this structure is a ureter by catheterizing it. The catheter can be felt through the vaginal wall outside the bladder in the ureter, and the urine collected as it comes down from the kidney drop by drop. The Fallopian tube can often but not always be made out.

The amount of displacement of the uterus which can be made without injury is considerable. In normal cases it can easily and without harm or pain be brought down to the vaginal outlet. When there is fixation, gentle traction can be made until pain is felt. In these cases I use traction with the corrugated tenaculum, and then pushing up the fundus with the finger practise massage, stretching the adhesions. I am sure that the downward traction to the vulva without pain never does any harm.

Dr. J. Whitridge Williams' remarks upon

#### THE PATHOLOGICAL SPECIMENS

submitted to him by Dr. Moseby, Dr. Wilson and Dr. Opie.

The specimens submitted by Dr. Moseby are of considerable interest, and consist of the uterine appendages from both sides. The specimen from the left side consists of the Fallopian tube, ovary, and part of the broad ligament. The tube was completely occluded at its fimbriated end, but otherwise presenting nothing abnormal, except numerous small adhesions. It contained a very small amount of dirty yellow fluid, consisting of columnar ciliated epithelial cells and numerous disintegrated cells. The ovary was considerably torn and covered by very dense adhesions, while the broad ligament presented nothing of note. The specimen from the right side was an irregular mass of tissue about  $5 \times 4 \times 1\frac{1}{2}$  cm., consisting of the tube and ovary imbedded in dense adhesions. At first glance the mass appeared to be composed of two parts, a large solid anterior portion

covered by dense adhesions, and posterior to it a cystic structure about  $4 \times 1\frac{1}{2}$  cm. in size. This had a bluish color, thin wall, and was intimately connected with the rest of the mass. Imbedded in adhesions a piece of the ampullar end of the tube was found, which could be traced for about 4 cm., and then lost itself in the mass, and appeared to have no connection with the above mentioned cystic portion. The main portion of the mass or section was shown to be composed of ovarian tissue, which was covered and completely hidden from view by very dense adhesions. It contained two tolerably fresh corpora lutea about  $1\frac{1}{2}$  cm. in diameter. The larger of these corpora lutea communicated by a small opening with the cystic portion above mentioned, which contained a thin, reddish, watery fluid containing blood cells. On cutting open this cystic portion its walls were found perfectly smooth, with several smaller cysts projecting into it. These varied in size up to 2 cm. in diameter, and were filled with a clear watery fluid, and arose directly from the ovarian tissue. On examining the scraping from the walls of these cysts, I found that they were lined by a layer of almost flat cuboidal cells, which were distinctly ciliated. These cysts could not have originated in the tube, as was readily demonstrated by their arrangement in relation to the larger cyst, and by the living epithelium, which was totally different from that of the tube. Their smooth interior precluded the idea of a ciliated papillary cystoma; and the only probable thing for them to be were dropsical Graafian follicles, which had been prevented from rupturing by the dense adhesions covering them, and so obtained their large size. The fact that they were lined by ciliated epithelium is not at all opposed to this supposition; for cilia have previously been found in the dropsical Graafian follicle, as was shown by Von Velits, of Budapest, about a year ago; and as I found altogether independently of him last spring. But as yet I have not made a sufficient number of observations to assert that all dropsical follicles are lined by ciliated epithelium. The blood in the large cyst in all probability came from the corpus luteum with which it was connected. The adhesions about the ovary were particularly dense and resisting. The diagnosis from the specimen is pelvic peritonitis, with adhesions binding down the

adnexa on both sides, particularly the right side, with several very large dropsical Graafian follicles.

The specimen submitted to me by Dr. H. P. C. Wilson was a small myoma about 3 cm. in diameter, and bore on one surface a piece of vaginal mucous membrane, the size of a two-cent piece. The tumor was submitted to me to decide whether its origin was from the anterior fornix or from the uterus itself. Sections made through the tumor and the vaginal mucous membrane readily showed it to be a myoma, which was separated from the sub-mucous tissue and epithelium by numerous bands of non-striated muscular tissue. From the presence of muscular fibres between the tumor and epithelium, I think we are justified in concluding that it was not of vaginal origin. Were it of vaginal origin, it should arise from the sub-mucous tissue and be immediately adjacent to the epithelium and not separated from it, as it was in this case, by muscular tissue. Force is lent to this conclusion by the fact that vaginal fibroids are very rare indeed, and many of the reported cases, especially fibroids from the anterior fornix, had their origin in the anterior wall of the uterus instead of the vagina.

The specimen submitted by Dr. Opie was a greatly hypertrophied posterior lip of the cervix, which measured 5 cm. in length, and 2 cm. at its broadest part. Microscopically it was found to consist of almost normal cervical tissue, with only a very slight increase of the connective tissue. Except at its cut surface, the entire mass was covered with the usual stratified epithelium.

Generally speaking, we may distinguish two forms of hypertrophy of the portio-vaginalis—follicular and diffuse or simple hypertrophy. The first form is due to an increase in the number and size of the cervical glands, with frequent retention of their contents, and is quite frequent but never attains a very great size, and is readily distinguished by its nodular appearance. The diffuse or simple form of hypertrophy is far more important. In this there is a general increase in all the elements that compose the cervix, though there may be a slight increase in the amount of connective tissue, as there was in this case.

Dr. Howard A. Kelly read a paper upon the palpation of



## THE NORMAL UTERINE APPENDAGES

(published in full in the February number of the *American Journal of Obstetrics*). He stated that the normal uterine appendages could always be palpated. There are two avenues of approach, by the vagina and by the rectum, and three ways of utilizing these avenues. First, with one hand; second, with two hands employed bimanually, either by vagina or rectum; and third, the trimanual method, by vagina and by rectum.

First, the examination with one hand is unsatisfactory, and the ovary cannot even be felt unless abnormally displaced downward into the recto-uterine pouch. Second, the success of the bimanual examination depends upon the downward pressure with the external hand displacing the abdominal walls in the direction of the ovary to be palpated, and thus affording a resistant plane against which the ovary can be felt by the internal hand. The internal hand must be used to invaginate the perineum, which is thus displaced upward into the pelvis. This invagination gives the examining finger, even though it be a short one, the necessary length. One, often even two inches, are thus gained to the palpating finger. Care must be taken in making the pressure necessary to produce this invagination not to stiffen all the muscles of the forearm, thus impairing the tactile sense.

The rectum is, of all others, the best avenue for approaching the structures lateral to the uterus, affording as it does a wide open channel throughout the whole length of the pelvis.

Where the structures cannot be reached at once through the rectum, they are brought within easy touch by bringing the uterus and ovaries into an artificial retroposed ante flexion, the mechanism of which was carefully described by diagrams.

Dr. Kelly had, in this way, palpated fibroid tumors on the posterior surface of the uterus near the fundus, not as large as a pea.

Third, the trimanual examination is conducted either by the vagina or by the rectum and vagina, assisted with the hand above. The peculiarity of this method is an artificial descensus uteri. The uterus is grasped with a pair of bullet forceps, and drawn downward until the cervix is seen at the vaginal outlet; and while an assistant holds it in this position, the gynecologist uses

his hands bimanually. To obviate the employment of an assistant, Dr. Kelly has invented an instrument, which he calls the corrugated tenaculum, flattened and roughened, so that it can be readily held between the last phalanges of the third and fourth fingers and the ball of the thumb, while the index finger of the same hand, assisted by the abdominal hand above, is engaged in making a vaginal or rectal examination.

By one or the other of these methods, the uterus, broad ligaments, and ovaries and tubes, are within reach of a most thorough and searching examination, revealing at once the smallest abnormalities.

WILLIAM S. GARDNER, M.D.,

*Secretary.*

## BATHURST AND RIDEAU TERRITORIAL ASSOCIATION.

This association held its regular semi-annual meeting at Ottawa on Wednesday, Jan. 21st. Among those present were: Dr. Dixon, Pembroke; Dr. Mann, Renfrew; Dr. Ermes, Carp; Drs. Morrow and Wallace, Metcalf; Drs. Agnes Craine and Easton, Smith Falls; Drs. Preston and McEwan, Carleton Place. The city was represented by some thirty-five members. The president, Dr. H. F. Rogers, occupied the chair. Dr. Small acted as secretary.

The president opened the meeting with a short address, and a discussion followed upon the action of the Council in raising the annual registration fee to \$2, and its inability to collect its dues. Many members thought that this district contributed more than others.

Dr. Cousens read a paper on

## MEMBRANOUS CROUP.

He held the view that this was a distinct disease from diphtheria, and extolled aconite as a remedy, particularly in the early stages.

The discussion was chiefly on the relation of the two diseases, the majority looking upon them as distinct.

Dr. Horsey read a paper on

## SYPHILIS AS A CAUSE OF EYE DISEASE,

pointing out the frequency with which it was overlooked.

Dr. Prevost read a paper on

## VOMITING IN PREGNANCY.

He grouped this symptom into three classes:

(1) When the stomach is simply disturbed; (2) when the disturbance is due to reflex action; and (3) when the whole system is in a state of reflex irritation. The latter, he thought, was only relieved by emptying the uterus.

Dr. O'Brien reported a case—presenting the patient—in which the brachial artery had been tied for a traumatic aneurism at the wrist joint.

In the evening, the visiting members were entertained at a dinner by their *confrères* of Ottawa.

The next meeting takes place at Gananoque in the month of June.

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### Clinical Notes.

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#### ADHESION OF THE SOFT PALATE TO THE POSTERIOR WALL OF THE PHARYNX.

BY JAS. A. MACMAHON, M.D., ST. CATHARINES.

Miss L—n, Niagara, came to me in Dec., 1890, and said she had catarrh, resulting from diphtheria four years previously. I examined the anterior nares and found hypertrophic rhinitis of both sides. When I proceeded to examine posteriorly, I found the soft palate attached to the posterior wall of the pharynx throughout its entire extent, with the exception of a space the size of a small quill immediately behind the uvula. The uvula was an inch and a half long, swollen, and hung down behind the tongue, causing a constant desire to cough and clear the throat. There was an adhesion also between the right side of the base of the tongue and the side of the pharynx. She breathed habitually through her mouth, and was unable to take two consecutive respirations through her nose. She had difficulty of breathing during deglutition, and could not clear her nose, from which there was a constant slight discharge. The history of the case is as follows: Four years ago she had virulent diphtheria. The membrane covered the pharynx, part of the buccal mucous membrane, and the nares. Several thick pieces of tissue were expectorated, which I take to have been sloughs, and when she recovered, her condition was similar to what it was when I first saw her, though not so bad. As a preliminary step I removed an inch of the uvula, and cauterized the inferior turbinated bones, and at the

end of two weeks I proceeded to cut loose the soft palate from the pharynx. By passing a small rubber tube through the nose, and through the small space behind the uvula, and out of the mouth, I was enabled by drawing on both ends of the tube to put the palate on the stretch, and so cut it away from the pharynx. To do the cutting I used a pair of scissors with the ends of the blades bent at a right angle to the extent of half an inch. I was thus able to make an opening over an inch wide; this was kept open by inserting the ends of the right-angle scissors and forcibly opening the blades and putting the parts on the stretch. This was done daily until the cut tissues were completely healed. Her condition three weeks after the operation was as follows: She breathed constantly through her nose, could eat with comfort, and sleep without snoring; she could clear her nose with ease, and was free from the constant desire to cough and clear the throat.

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### Pathology.

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#### MICROBES IN LEUKÆMIA.

Fermi has found in the spleen of a dead leukæmic patient an organism which he supposes to have some fixed connection with the disease. The germ, which is a short, thick, round-ended bacillus, and of which he was able to produce colonies by cultivation, was not discovered in any of the organs of twelve bodies subsequently examined, the cause of death in which was not leukæmia. Kelsch and Vaillard have proven the pathogenic properties of this bacillus in relation to rabbits (*Centralblatt für Bakt. u. Parasit*). Clinical observations by Dr. Cameron, of Montreal, upon leukæmia in pregnant women, tend to confirm the germ theory of its origin. He records (*American Journal Medical Science*) a case in which the grandmother, mother, and brother of the patient under observation had apparently suffered from the disease, whilst two of her own children had certainly developed it. In view of the fact that certain microbes have been shown to be able to pass in the placenta from the blood of the mother to that of the foetus, Dr. Cameron's observations afford support to the idea that some organism is casually connected with leukæmia. J.C.

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THE PRESENT LIMITATIONS OF  
SPINAL SURGERY.\*

ROBERT ABBE, M.D., NEW YORK.

I venture to present to your attention a subject not too old to be hackneyed, nor too new, as yet, to have been anywhere nearly exhausted. The surgeons of the past have uniformly insisted upon the most rigid respect for interference with the spinal cord in pathological conditions. Occasional attempts have been made to restore its integrity when it was supposed to be pressed upon in fractures; but so much disaster has followed upon attempted interference, that no progress can be said to have been made until the last five years. At present we find ourselves in a position to endorse surgical approach to the spinal cord under very many circumstances. What amount of benefit will ensue from such interference, it remains for additional experience yet to prove. We shall not enter into a rigid survey of the history of the surgery of the spine; for this has already been well done by Dr. White, whose account can be read in the *Annals of Surgery* for July, 1889. Since that date, somewhat more has been added that gives additional interest to the subject, and outlines, in a measure, the direction of future investigation. At present I only go so far as to call your attention to the now exist-

ing limitations of the work, and to illustrate the subject by histories of typical cases.

The general surgeon has dismissed from his mind the question of suspension in order to relieve certain "medical" lesions of the spine, as in locomotor ataxia. This mode of procedure has had a fair and extensive trial, which has gone to show that its utility is too slight to be taken seriously into account; and it is now practically abandoned. The more truly surgical operations upon the spine include such interference as will deal with cases of spina bifida, with caries from Potts' disease, with tumors of the spinal cord, with intra-dural adhesions from myelitis, and with fractures of the spine. We are also in a position to take up the question of the section of the spinal nerve-roots.

Under these six headings let us consider the last views sustained by recent practice. It will be seen that in dealing with the condition of spina bifida, we have at once to attack one of the most delicate forms of spinal work. We have immediately to invade the serous cavity of the spine; to subject the patient to the great bugbear of the past surgery of the cord, spinal meningitis. But it is now evident that with the modern precaution of exclusion of infection, we practically exclude this risk. The purely surgical method of dealing with spina bifida cases, which has been outlined and defended so well by Mr. Mayo Robson, presents the best possible resort of the surgeon of to-day. The bold and complete excision of the sac, with suturing

\*A paper read at the Post-Graduate Course of the University of Toronto, Dec. 19th, 1890.



of the membranes composing it, has given results superior to anything yet known. In spite of the fact that the special committee of the Clinical Society of London some years ago announced, as the results of their laborious research, that by far the best and safest method of curing the condition was by the injection of Morton's iodo glycerin solution—by which sixty per cent. of the patients operated on were "cured"—there comes to those who use it a far poorer record! Cases of spina bifida differ so much in their interior structure, as regards the distribution of the spinal nerves, that it becomes difficult to know, before injection, whether the nerves themselves are not in the sac, where they will be bathed by the irritating fluid. On the other hand, the method of Mayo Robson enables one at once to inspect the interior and to make such disposition of the nerve-ends as may seem surgically best. After having twice used the injection method, with results I was forced to regret—convulsions having ensued, and death—I have lately had an opportunity of removing a very large spina bifida, in which about one-third of the cauda equina traversed the sac, passing in the median plane to the opposite wall. This I severed and laid back in the groove of the divided spine; then I excised the entire sac. This case had been subjected to repeated aspirations by the physician in charge before I saw it, and had an inflamed condition of the sac, with general fever; temperature 105; and death seemed impending when I operated. The temperature declined immediately after operation, and the spina bifida was cured. At the end of three weeks the child, being out of my care, fell into some disorders of nutrition and died suddenly. An autopsy was obtained, and the site of the tumor found to be perfectly healed. The ease, the satisfaction, and the safety of the operation, renders it, to my mind, the only rational treatment. As regards the loss of spinal fluid involved by entering the sac, it entails no danger to the child, provided the patient be kept in a horizontal posture or with the hips elevated. No drainage can then take place from the cranial cavity or the upper spine. The child does not suffer convulsions; and the operation is quite as simple as when we operate elsewhere on serous cavities. Fine cat-

gut suturing of the serous lining, not quite underlying the line of skin incision, renders good primary union, with a strong covering, quite certain.

Robson reported, among others, one recovery in a case where the sac was inflamed, and its contents slightly turbid.

The question of interference in caries from Potts' disease hinges upon two conditions: First, in the early stage, before extensive destruction of bone has occurred, an endeavor may be made to abbreviate the course of the disease by curetting, and treating the lesion precisely as we deal with tubercular lesions elsewhere. Second, there are cases where paraplegia has followed upon angular curvature from destruction of the bones, or from inter-spinal pressure from neoplasms incident to the disease. Surgical museums everywhere attest the power of Nature, by building up ample osteoplastic involucra for the carious vertebrae, to handle the question of surgical repair quite as well as the doctor. What she wants in the way of help, however, is that we should rid her of the burden of the tubercular infection. It seems as if we had almost in view that relief, from Koch's fluid. But as the use of this is not yet established, we can fairly say that our best method of relieving these carious conditions is through the free use of the curette, the injection of iodoform; and if there be bad sinuses, the use of peroxide of hydrogen. It is not often that cases of caries of the spine are early operated on; but I conceive that the course of the disease will, in some cases, be rendered more brief by direct local treatment. This was one of the earliest dreams of Lister, after initiating antiseptic surgery, but a disappointing one. The use of iodoform, however, has assisted materially in justifying this expectation. The disease rarely begins in the arches of the vertebrae; more often in the vertebral bodies. Kraske, of Freiburg, regards this portion as too inaccessible to be operated on successfully. I have myself operated in one case which well illustrated the ease with which the bodies of the vertebrae may be approached. My method was illustrated briefly as follows: The patient, a young man of twenty, had a history of pleurisy, *fistula in ano*, and slight phthisical changes in the apex of one lung, a history

extending through two years prior to the development of a lumbar abscess over the iliac crest. This last was being freely discharged through three sinuses along the iliac crest. A probe passed far up the spine to the last dorsal vertebra. There was no deformity, and little pain. An incision was made alongside the twelfth dorsal vertebra. The transverse process was carious as well as the body of the bone adjacent: and a curette was readily passed into the body of the vertebra, alongside the spinal dura mater, which was readily pushed aside without injury, and an extensive excavation of diseased bone made, one-half of one vertebral body being thus removed. Apparently healthy bone was left on all sides. The entire pus channel was curetted, and douched with sublimate solution, then with iodoform in ether. In six weeks the patient left the hospital, having, at the time, a very slight discharge from one small sinus. Prior to operation he had had three sinuses, an infected tubercular pus-tract, a foot long altogether, leading to the carious cavity. His condition had been one of severe drain, with hectic. His improvement was rapid and satisfactory, the *rationalé* being that he had ceased to auto-infect his system from an extensive suppurating tubercular pus-channel. I believe the greater part of the discharge in these cases comes from the granulation lining the sinuses.

The second class of Potts' disease lesions that we are called on to interfere with is that of paraplegia, the sequel to chronic caries. While these cases are sometimes due to secondary myelitic changes, they are usually produced by, and due to, extra-dural pressure of tubercular neoplastic tissue. The simplicity of the surgical procedure needed to effect the relief of this extra-dural pressure would make it seem desirable that every such case should be speedily operated upon, fearing permanent destruction of the cord if the condition was allowed to run on. But it has been shown, notably by a review of cases by Dr. V. P. Gibney, of New York, that the majority of pressure-paraplegia cases from Potts' disease recover in due time by natural processes. Therefore the surgeon's hand is stayed oftentimes. Such authorities as Israel, Bergmann, and Kraske, discourage interference, concluding that, because the disease

cannot be eradicated, it is useless to interfere. My own feeling would be in favor of interference in the majority of cases, believing, as I do, that thereby the cord may be oftentimes preserved, and the course of the disease simplified.

The orthopedic surgeon is generally rather conservative, and regards the operating surgeon as a man suffering from a continuous and severe surgical fever.

My friend Dr. Gerster operated last year on an old vertebral Potts' paraplegia, and found a subdural abscess with caseous masses, which he curetted away. The patient made a comparatively rapid and entire recovery.

Dr. Wyeth had a somewhat similar experience. The treatment of cold abscesses from carious spines, as well as of the parts about the bone immediately diseased, by the method of Brun (injecting one drachm of twenty per cent. solution of iodoform in olive oil every two or three weeks) deserves attention. It is endorsed by the experience of Krause and Trendelenberg. My own high esteem for iodoform in these cases leads me to endorse it also.

One of the most terrible accidents that man is liable to is a fractured spine—an accident reducing the human body, in the twinkling of an eye, to a state of absolute inaction, indifference, and paralysis. The incidents of the fracture are: the shock; the absolute loss of motion and sensation; and the occasional onset of great pain. The associated train of symptoms will perhaps be as well illustrated by a narration of two or three interesting cases in which I have operated within the last two years as by any general considerations that I might offer. An extensive study of injuries to the spinal cord, made by Dr. William Thorburn, of Manchester, England, has led to the observation that out of twenty-one cases of injury to the cervical region, without fracture of the bone, at least five or six were cases of hemorrhage within the vertebral canal: and that the symptoms, referable as they are to a considerable portion of the spine rather than to one or two nerve-roots, have caused these cases to be usually regarded as fractures, and, later, classified under "concussion." They are not nearly so fatal as fractures and dislocations. Nearly all of the fracture-dislocations of the cervical

spine are fatal, whereas the hemorrhages into this portion of the spinal canal end in recovery, though the patients suffer temporarily from paralysis in the limbs and trunk, lasting for from two to three weeks. The hemorrhage usually occurs within the substance of the cord, a so-called hæmatomyelia. The symptoms produced by this intra-medullary hemorrhage are either such as arise from a destructive or such as are due to a compressing lesion; just as in the case of hemorrhage into the cerebral tissue. Resulting from a destructive lesion we find atrophic paralysis, and perhaps persistent anæsthesia in some parts of the nerve-supply to the body. The hemorrhage compressing the cord, either from within or without, may cause more or less complete paralysis and anæsthesia in parts below its level, together with retention of urine and feces, priapism, contraction of the pupil, and other symptoms. These subside, however, leaving only some spastic disturbances in the limbs. The intra-medullary hemorrhages are the result either of concussion or of fracture-dislocation. Below the cervical vertebra, traumatic hemorrhage alone into the substance of the cord is rare. The fractures about the roots of the brachial plexus, the roots namely of the sixth, seventh, and eighth cervical nerves, have been of special interest for study. Mr. Thorburn found that it was possible to locate exactly the seat of the fractures in this region by a study of the anæsthetic areas in the arm, which indicate with precision that particular root of the brachial plexus which is involved in the damage to a vertebra. The brachial plexus being composed of the fifth, sixth, seventh, and eighth cervical, and the first dorsal, nerves, it has been possible to define the sensory supply of the fifth root as covering the deltoid muscle, and the outer side of the arm and forearm; and that of the eighth cervical and first dorsal as including the little finger and the inner side of the hand, forearm, and arm the remaining roots providing for the intermediate parts of the limb. The fifth cervical root has a definite muscular distribution, constituting the so-called "fifth root group," and consisting of the deltoid, supra and infra spinatus, and teres minor. Consequently, we have only to observe the exact areas of anæsthesia and motor paralysis to know the precise

vertebra that is fractured. The completeness of the anæsthesia and paralysis gives us no absolute information at first as to whether the cord itself is irreparably damaged, or whether simply hemorrhage has occurred.

Injuries of the cord from fracture in the dorsal region are easily defined by the anæsthetic area resulting. The fractured vertebra lies about three inches higher than the line of well-marked anæsthesia, owing to the roots leaving the cord within the vertebral canal at a point two inches above where they make their exit from the canal. Lying beside the cord, therefore, in the canal, there are roots that have left it some distance above, and are descending to their foramina of exit. A crushing wound, consequently, will sometimes involve these strands also, as well as the cord itself; though, as a rule, the relative firmness of the nerve-tissue is so much greater than that of the white substance of the cord that the former is apt to escape injury, quite. (Specimen shown.) Owing to the fact that the medullary substance terminates at the first lumbar vertebra in the firm cauda equina, an injury to the spine below this point is less likely than anywhere else to destroy the nerve-tissue. And it is in just these cases that more may be hoped for from operations to remove pressure than in lesions higher up. I have lately seen, with Dr. Lloyd, of New York, such a case, in which I assisted him to operate, and with great relief to the man. A heavy gas-generator had fallen upon the back of this patient while he was down on his hands and knees. His third lumbar spine was crushed in. He immediately suffered complete paralysis of his right leg. He was left, after some time had passed, with a pain in his back and retention of urine, the paralysis slightly improving. But subsequently, six months after the accident, that is, he was still paralysed in his right leg, and anæsthetic over a limited area of the buttocks and thighs, and in the right lower leg and foot. (Blackboard illustration.) We operated in July last, removing the second, third, and fourth lumbar spines, and removing the bones of the three corresponding arches. We found the dura apparently uninjured, and satisfied ourselves with the relief of the pressure made by the crushed-in arch. The patient gained, from the day of the operation onward. His



anæsthesia has steadily diminished, until now he lacks sensation in but a small area about the buttock, and along what is merely a line down the leg. He walks with one cane; has little or no pain: and has resumed his work. Thorburn mentions several corresponding cases—though they were not operated on.

It has been more and more clearly demonstrated, year by year, that cases of fracture-paraplegia in the course of the dorsal vertebræ are, in the great majority of cases, associated with extensive damage, and usually with complete severance of the cord itself. The mechanism by which this is effected is the violence sustained in the so-called fracture-dislocation, *i.e.*, dislocation of one vertebral body from its neighbor, together with fracture of some resisting portion of the arch. It is a singular fact that, in the larger number of such accidents, the bodies of the vertebræ are spontaneously replaced, so that the patency of the vertebral canal is preserved! It is not usual to find much permanent encroachment of the broken arch inward upon the damaged cord. The cord is pulpified, and undergoes subsequent degeneration. The portion cut off below continues to exercise its proper reflex acts and functions; hence the response of muscles getting their nerve-supply from it to electric stimulation and to reflex irritation at times; and hence, too, the comparatively plump and persistent condition of the lower extremities. Thus it will be seen that we have two conditions in fracture of the spine producing paraplegia and anæsthesia: one hemorrhage into and about the cord, the other the total transverse destruction of it; and it becomes a matter of importance to determine, if possible, which has been the lesion. If it be hemorrhage only, there will be an early restoration of function in from a few days to a few weeks, which will settle the question. These cases are usually called "shock." If the cord be pulpified, it will never serve its purpose again. Bastian maintains, and his views have corroboration from such cases as I have seen, that there is loss of all tendon reflexes in the paralyzed parts where the cord is severed. This gives us a satisfactory symptom. Let me illustrate these conditions by referring to a case about which I was consulted last week.

Miss N., ten years of age, fell from an apple tree in July, 1889, while breaking a stick over her knee. She was picked up paralysed from the neck downwards, and in pain. The skin over the upper part of her body was exquisitely sensitive to the touch. There was paralysis of the rectum and bladder. The striking features of the case were: (1) A return of power and sensation in both arms and down to the line of the nipples, while the lower extremities remained paralysed. This condition can be explained only by there having occurred a hemorrhage into the cord in the cervical region, and a severance of the cord by a fracture-dislocation at the fifth dorsal vertebra. (2) There continued for some weeks a sweating of the upper part of the body with hyperæsthesia, both due to irritation of the clot in the cord. (3) There remains a persistent objective sense of prickling in the lower extremities. This, unfortunately, cannot be construed as a return of sensory conduction, but merely of irritation at the severed end of the cord. (4) There is an absence of all the tendon reflexes, which is a proof of cord section. (5) There is a notable vaso-motor conduction independent of the cord, manifesting itself as follows: if the rectum or bladder is full, or if the rectum is irritated, or if alcohol is applied to a sore spot over the sacrum, she is at once warned by a feeling of headache and cerebral hyperæmia. (6) There is a peristaltic intestinal reflex if the finger be placed in the rectum, and a stool is regularly induced thereby. From our present knowledge, an operation on her spine would be futile.

The condition of the spinal cord found at operation in fracture paraplegia may be well illustrated by the following cases:

A young man of twenty-seven years had his back broken by falling from a platform twenty feet above the ground, suffering the usual paralysis and accompanying incidents. Complete anæsthesia remained below a line two inches above the crest of the ilium. I operated by my method (to be described further on), and found that the twelfth dorsal vertebræ had been displaced backward, so that the cord was compressed between the arch of the eleventh dorsal above and the upper lip of the body of the twelfth below.

When the arch was removed, the cord was

seen to pulsate above but not below the point of pressure. However, it quickly filled out, and there was no surface appearance by which one might say from looking at the unopened dura that the cord was not normal within. I emphasize this because surgeons occasionally report that the "cord appeared normal" and "they therefore did not open the dura." On slitting up the dura mater for two inches, adhesions of various density were found within, attaching the meninges to the dura, and forming a complete circular dam, shutting off the upper from the lower part of the canal. An ounce of spinal fluid flowed out when the adhesions were broken up. The normal cord ended at the point of injury by a sloping rather than an abrupt edge. A gap of three quarters of an inch intervened, below which the cord again seemed sound. The intervening portion was a mere flattened band of atrophied tissue, with very few white bundles.

The patient had expressed willingness to have resection of the injured portion performed, and suturing of the fresh ends, if that should prove practicable. I found it entirely impossible to approximate the sound cord on either side of the damaged part more than a quarter of an inch, by making traction with tenacula. This patient had primary union of the wound, but gained nothing with respect to the paralysis. Being heard from a year later, he was enjoying the best of health and weighed more than ever, but was obliged to live in a perambulator.

In another case a man of twenty-seven attempted to alight from the rear platform of a rapidly moving car. He was struck and thrown forward, and immediately suffered paralysis at the waist. At operation I removed the arches of the last three dorsal and first lumbar vertebræ. The eleventh dorsal had evidently been fractured, but there was no displacement or pressure. The dura mater was round and full, and as far as its surface showed, nothing wrong would be suspected within it. I slit it up for three inches, letting out some little fluid. Underneath the injured arch a circular dam of lymph was found, cutting off the upper from the lower part of the canal. The white substance of the cord ended abruptly, and was replaced for half an inch by a pinkish-gray substance, the remnant of the membranes.

Just below the lymph dam a congeries of distended vessels occupied the surface of the cord. These emptied themselves perfectly when the lymph adhesions were broken up. Convalescence without fever followed. On the following day his paralysed parts were acutely hyperæsthetic. A touch, or pulling of the hair, of the foot, legs, and thighs, gave acute pain, and caused the legs to jump. There was absolutely no voluntary motion, however. The hyperæsthesia proved to be transient, and up to three months afterward no gain had taken place in muscular action.

To illustrate the hardships of paraplegia cases, the following one is notable. A well-to-do merchant of twenty-seven was thrown from his horse while out riding on his ranch in Montana. His back struck across a stick of wood on the ground, and his body was instantly paralysed below the waist. He endured a sleet and snow storm for a day and a half, lying where he fell. When found he had over-distended bladder. The nearest physician being ninety miles away, he relieved his bladder by straws, the ends of which were rendered smooth by dipping in hot candle-wax. His second mishap was in having both feet burned by the over-zealous use of hot bottles. One month later it was necessary to amputate both legs below the knees. Bed sores subsequently occurred. He afterwards convalesced so far as to enjoy his pastime of riding in a buggy, to the leathern seat of which he was accustomed to be strapped. After unwisely remaining seated thus one day for seven hours, a slough from pressure-gangrene occurred under his buttocks, exposing the tuber ischii. An operation was done to explore the seat of fracture, and offer him some novel methods of relief, but in his bad state it proved too grave for him to rally from, and death saved him from suicide, which he had threatened.

Such cases represent the types of fractured spines. Let us now for a moment examine some typical tumor cases. The famous case of Mr. Horsley, of nearly four years since, is familiar to you all. Its diagnosis rested upon neuralgia of the fifth intercostal nerve. A small oval tumor was found somewhat higher than the apparent exit of the fifth dorsal pair of nerves within the dura, and was removed. The man made a perfect recovery. I have operated on

two patients -whose cases have already been put upon record, the first being a tubercular tumor within the vertebral canal but outside the dura, making complete pressure upon the cord for two inches and a half, developing with great rapidity, and including complete paraplegia and exhausting hectic. The man made an absolute recovery after operation for removal of the growth, and is now, at the end of two years, in excellent health.

The second case was that of your townsman, Professor McGregor, whose history in brief was that of strained back two years or more before the onset of his trouble. In July, 1889, he first felt a decided pain in his back, his health began to decline, intestinal action became torpid, urinary retention succeeded, and pain, mostly in his right side, centered in his back. He was at first thought to have muscular rheumatism, and accordingly he endeavored to exercise and work it off. In two weeks he found it difficult to rise and dress; in five weeks he lost his ability to guide his limbs; he walked, pushing a chair. Further efforts to exercise were succeeded by complete paralysis. He pushed a chair before him, but fell upon his side. With indomitable will he made another effort, and fell upon his back then crawled to a sofa, where he lay all night, and subsequently was completely paraplegic and anæsthetic below his waist. His physicians, and Dr. Seguin, of New York, diagnosed pressure-paraplegia either from caries or from tumor. A temporary resort to mechanical support resulted in no gain. As a *dernier resort* he was put under my care for operation. At the time the patient was suffering from albuminuria and fever. Prior to the operation he passed through several attacks of an evidently septic nature, with chills, high temperature, and acute albuminuria. Operation was postponed from time to time from necessity, owing to the condition of the patient. An operation was finally done on April 16th, 1890. It resulted in my finding a sarcoma infiltrating the bone from the base of the spine of the eighth through the arches of the eighth and ninth dorsal, and the body of one vertebra. It also grew between the transverse processes of these vertebræ, and forward between the ribs, beneath the pleura. It occupied the vertebral canal and squeezed the cord flat over the length of an inch. It was

entirely curretted away. He improved and bid fair to recover for four days, when obstinate hiccough set in, which grew worse and worse in spite of all measures to check it. It transpired that he had previously been subject to such attacks of vomiting and hiccough. From the fourth to the ninth day, when he died, his stomach was his worst trouble, and from its upset condition his exhaustion resulted.

A letter from Dr. Seguin mentions the ground of his differential diagnosis between myelitis and pressure-paraplegia, "the diagnosis turning upon the presence of fixed pain in one side, and also, with less logical force, upon the comparatively slight anæsthesia at a time when the volitional motor impulses were wholly arrested. A focus of central myelitis in the dorsal region would give rise to a paraplegia with equal sensory and motor symptoms, but with probably greater sensory symptoms, and the side pain would be absent."

We will now speak briefly of an entirely new operation, relieving occasional cases of intractable neuralgia by intradural resection of the posterior roots of the corresponding nerves. It is based upon the fact that this root of each spinal nerve is a purely sensory one. Within the dura it is free for an inch or more, but just outside it enters its ganglion, and unites with the motor root. The possibility of dividing the sensory root on the proximal side of the ganglion was proposed by Dr. Dana, who referred to me for operation the following case:

A middle-aged man, having had exposure to cold two years ago, immediately became the victim of intense neuralgia of his right fore-arm and hand, which subsequently extended to the brachial plexus. He had had his nerve stretched, and finally his arm amputated at the middle of the humerus, by Dr. Bull, of New York. His pain, however, had not abated. He acquired a morphine habit, taking half a grain hourly to subdue his pain. Some months after he came to me for operation. I exposed more than two inches of the cord in the cervical region, the portion corresponding to the roots of origin of the nerves involved. It appeared normal. On the following day, I removed the packing from the wound, and had the man placed in an excellent light with the head lower than the spine. Without anæsthesia I split up the dura mater



the full length of the wound, which was a painless procedure, then picked up the roots of three of the brachial nerves, divided them close to the posterior column, and cut out one-fourth of an inch of each root. The dura was then sutured with fine catgut, and primary union resulted. Two ounces of cerebro-spinal fluid escaped without appreciable effect on the patient. His pain entirely changed in character. After eleven days, he sat up and stopped his morphine. The skin of the shoulder and arm remained completely anæsthetic; his morphine habit never returned; his pain somewhat returned, but was never as bad as before. Inasmuch as I did not cut all the roots of the brachial plexus, it is possible that the operation would have been entirely successful had it been a little more thorough.

A second case soon presented itself in a man of forty-five, who, after exposing his arm, when perspiring, at the window of a street-car during a long ride, began to experience neuralgia of his hand. Severe pain persisted, and in the following year Prof. Stinson, of New York, stretched his ulnar nerve, which was subsequently excised by Dr. Fluhrer, both operations failing to afford the patient relief. Subsequently, Dr. Gerster stretched his brachial plexus at the axilla. However, his pain still continued in a most aggravated form. He acquired a heavy morphine habit. I operated in February, 1885, resecting four of the five sensory roots of the cords of the brachial plexus. For five days he seemed to be much freed from pain. The paroxysms, however, afterward came on, only to a moderate degree, and have up to date never been as severe as before.

The pathologists' report upon the condition of these resected nerve-roots was that they were in a state of inflammation. The future of this operation may be an important one. In a case in which the patient was operated on by Mr. Bennett, of London, four days prior to my first operation, for the relief of obstinate sciatica, and the posterior roots were divided within the dura, a perfect cure resulted up to the twelfth day, when the man died of other causes. This and my two cases are the only ones in which the operation has ever been done.

A most interesting case has lately been published by Drs. Dercum and White, of Philadelphia (*Annals of Surgery*, July, 1890). A man

of fifty-five had an attack of what was supposed to be rheumatism, which commenced with shooting pains in arms and shoulders. In three or four days he began to notice a weakness in his extremities, which progressed and ended in complete paralysis a few days later. The reflexes were exaggerated. There was pain over the dorsal vertebræ. Jarring the spine was exquisitely painful.

Dr. White operated, opening the dura and finding an apparently normal cord, adherent by the meshes of the membranes to the dura mater by many fine bands. These were simply broken down and the wound was closed. The patient's acute pain present before the operation entirely disappeared, and never returned. Sensation and power did return, and before one year had elapsed he was walking, and had made an excellent recovery. Whether removal of the irritation due to the presence of lymph bands in connection with the posterior column of the cord, or whether the altered circulation in the operated part resulted in recovery, I cannot say. At all events the case stands unique in its successful issue.

METHOD OF OPERATING.—I believe the future of successful spinal work depends somewhat upon the technique of our operative method. Heretofore the surgeon has stripped the spines of the attached muscles, severed the interspinous ligaments, and cut away the spines themselves, before dividing the laminae. This is tedious, and may be bloody. Dawbarn and others have used an H-shaped incision, cutting through one interspinous ligament, and turning up a huge flap of skin and bone and muscle from over the operated part. Compared with the method which I will now detail, these modes of procedure are both crude:

A bold incision a half inch to one side of the spines is to be made, clean and quickly, through the soft parts to the laminae, parallel with a block of at least five spines. A heavy bent bone-cutting forceps is used to sever the spines at their bases. The interspinous ligament is not cut. A periosteal elevator is now used to scrape the laminae clean of the adjacent muscles, and the entire block of severed spines is drawn to the opposite side by the aid of broad retractors and periosteum elevators. Thus, without sacrificing any tissue, the entire breadth of the laminae is thoroughly exposed in a clean wound. To re-

move the laminae, bone-cutting rongeurs, a straight and a curved pair, are the only instruments necessary. Their cutting edges should meet at a slight angle, like a flat Gothic arch. In a very few moments an ample display of the spinal cord can be effected, and after the operative work upon it is over, the block of spines, with their muscular attachments intact on one side, falls back into place, and is sutured. Thus there is no weakness of the spinal column remaining from destruction of the interspinous ligament, and no gap to be filled through removal of the spines.

With regard to the possibility of ever replacing a section of damaged cord by sound cord grafted in, fresh from another animal, it would seem as yet a quixotic dream not likely to be realized. Though it is conceivable to my mind that if a liberal substitution of sound cord can be stitched in, in place of a clean cut-out damaged segment of cord, a fair sensory and motor conduction may yet be attainable. The possibility of the successful grafting of a portion of a cat's brain into a dog's brain, as shown by Professor W. G. Thompson, and the recent successful employment of a two-inch piece of the spinal cord of a rabbit to fill a corresponding gap in the median nerve of a man, did away with the theoretical objection that the white medullary substance of the cord and brain would not survive this substitution as successfully as transplanted nerves of the ordinary motor type. The technique of this experiment has yet to be worked out.

**CONCLUSIONS:** 1. For spina bifida, excision of the sac, after the method of Mayo Robson, is to be advocated.

2. For spinal caries one should only operate where the sinus drainage is exhausting the patient. Then even the bodies of the vertebrae may be curetted, and the sinuses should be abbreviated. Tubercular sinuses should be cleaned up with peroxide of hydrogen and iodoform injections. On cold abscesses Brun's method should be tried.

3. In fracture paraplegia operation should be deferred until the bones have united and hemorrhage has been absorbed. A subjective sense of tingling and pain in the paralysed and anaesthetic limbs is not an evidence of conduction to the cerebrum along the cord, but rather of

irritation of the divided stump by the cicatrix, or by bone-spicule, and thence a delusive reference to the parts supplied. The only satisfactory proof of total transverse lesion is based on observation of absence of tendon reflexes. Involuntary twitching and jumping is a reflected action having its nervous origin in the distal part of the divided cord. It may exist even years after the injury, and is not to be construed as favorable to ultimate recovery.

4. Little is to be hoped for from operation in cases of total transverse section. If there is pain in the hyperæsthetic zone, it will probably be relieved by breaking up intradural adhesions, and relieving the engorgement of the cicatrix. Nothing more can be expected. Paresis and limited anaesthesia of the lumbar root supplies calls for operation, and this will probably be followed by recovery.

6. Cases of paraplegia and persistent acute pain, warranting a diagnosis of myelitis with local meningitis, should be given a chance of relief, such as that which followed White's operation described above.

7. Simplification of operative methods makes the surgery of the spine a comparatively simple affair.

8. Intradural division of the posterior roots of the brachial or sciatic plexuses for the relief of intractable neuralgias is an operation seemingly justified by the three reported cases. Further experience is needed to prove its title to a place in the list of justifiable operations.

#### PRESIDENTIAL ADDRESS,

Delivered before the Pathological Society of Toronto.

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**GENTLEMEN:** I desire to express my thanks for the honor you have conferred by electing me president of this young and vigorous society. Had I been aware during the summer of the honor conferred upon me, and that an opening address would have been expected, I would have taken some subject in pathology which is at present uppermost and endeavored to make observations upon it. Under the circumstances, I will not attempt anything of that kind, but rather confine my remarks to some general topics in connection with the study of pathology in this city.

We are now entering upon the second full year in our history, and we have every reason to feel encouraged on account of the progress already made. The number and variety of the specimens presented at our monthly meetings would compare favorably with older societies in much larger cities.

It is also a subject for congratulation that some of our members have had the time and energy to devote themselves to original research, and that they have freely given us the result of their labors. It is felt, however, that in this department only a beginning has been made, and that nothing short of a continuous rate of progress will satisfy us. In this comparatively young country, and in a city which only a few years ago completed the fiftieth year of its existence, we must naturally expect many obstacles and discouragements in prosecuting the study of pathology, a science which cannot be regarded as popular. I wish very briefly to take into consideration some of these difficulties, and make a few suggestions as to their removal.

It will be impossible for us to make much progress as a society, especially in the domain of original investigation, unless we can in some way or other have two or three professional men in our membership who can devote their whole time to this branch.

So far we are indebted to two of our members, Dr. A. B. McCallum and Dr. Caven. Dr. McCallum has been kind enough to examine specimens and make reports when the work required was not quite in his line. We sincerely hope that he will continue to give us this advantage of his rare gifts and attainments. If, however, at any time he should engage in a course of study more intimately associated with his work as a lecturer, we might be to a great extent deprived of his valuable assistance.

Dr. Caven has not yet received a reward commensurate with his work, and we cannot expect to always continue under such disadvantages.

Some members of our society who have recently commenced practice have done excellent work—with them, however, as with others before them, when patients become more numerous, their time will be so taken up with clinical work that they will not have much leisure to devote to original investigation.

It is, therefore, in my opinion, necessary in order to advance the science of pathology that we should have at least two men who are sufficiently well paid to devote their whole time and energy to this subject—one to take up general pathology, including pathological histology, and the other to confine himself to bacteriology.

I do not think it would be difficult to convince our Provincial Government of the great necessity of establishing a bacteriological laboratory in connection with the Provincial Board of Health, which should be superintended by a thoroughly competent man, whose salary should be paid out of provincial funds.

Really, a board of health is very much cramped in its operations without such a laboratory. The testing of drinking-water cannot now be properly made without examination for germs. Enquiries into the origin and progress of epidemics cannot be properly made without the aid of a competent bacteriologist. Then, it must be remembered that these minute beings attack and destroy the lives of domestic animals, trees, and plants, and that their discovery might lead to the adoption of measures which would result in the saving of thousands of dollars to our country.

If these and similar arguments were used, our legislators would see the great advantage to the country of such an institution. They would only have to refer to countries in Europe to find out that every large health board has such a laboratory connected with it.

If these views should meet with your approval, it might be well for us as a society, or as individual members, to lend our assistance to the Provincial Board of Health in their endeavors to carry on this work.

The presence in this city of a thoroughly competent bacteriologist, who could devote his whole time to that science, would be of immense benefit to us. So many pathological processes are in some way connected with the presence of bacteria that we ought always to have some authority to whom we could refer.

I propose to separate it from pathology, as there is in it sufficient scope for the abilities, energies, and the whole time of any one engaged in it.

There are two or three different ways in which we can assist the professor of pathology in his work.



The medical college which properly endows a chair in pathology will, other things being equal, be the most successful in securing students. We are inclined to put too much money in buildings. It would be better, in my opinion, to retain a first-rate man, by paying him a proper salary, than at once to build a pathological laboratory. A really good man will be sure to find room and apparatus for his work.

In reading the accounts of coroners' inquests, we are often astonished that general practitioners are required to give opinions on *post mortem* appearances, sometimes of a very obscure character. How can it be expected that one who does not perhaps see more than two or three *post mortems* a year can make a proper report in any case for a coroner's jury? Under present circumstances, *post mortems* cannot be made in any other way. If a pathologist were appointed for each district, whose business it would be to make such examinations, the result of coroners' inquests would be more valuable than is at present the case. We would then have a class of men who would have an excellent practical knowledge, and who would become good members of our society. The specialist in pathology might be better supported than he is at present by the general profession. How frequently some of us send specimens without enclosing any fee. It is true that, in many cases, no money is obtainable, but in others a fee could be secured if asked for.

These are matters which may perhaps seem scarcely what might be expected in an address before such a society as this, but they are of a practical character, and of great importance to the development in this city of the science in which we take so much interest.

The majority of our members are not pathological histologists, but rather students of clinical work. We must not forget that the study of pathological processes, as they take place in the living subject, are really more important than the study of the results as they are found on our *post mortem* tables, and that the careful observation of these processes are equally the work of members of this society. It is probable that enquiry for the future will be made in the direction of the chemical and microscopical examination of the fluid secretion and excretion of the human body when the subject of disease, rather

than into the microscopical examination of dead tissue.

It is therefore pleasing to know that we have all work to do, whether in the microscopical, chemical, or purely clinical field. During the past year our indefatigable secretary undertook to receive descriptions of specimens to be presented, had a number of copies printed, and distributed to the members. In this way each one obtained beforehand a good idea of the programme, and was able to direct his reading accordingly. It is to be hoped this year, when the secretary takes so much trouble to provide us with the programme, we shall not only hand in reports of specimens, but also to some extent read the literature, so as to enter into the discussion with more profit.

[It will be gratifying to our readers to know that since the delivery of this address, a Bacteriological Laboratory has been established in connection with the Ontario Board of Health, and that a competent man, Dr. McKenzie, has been appointed to manage it.—ED. C. P.]

## KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT.

Communicated from Berlin to the University of Toronto.

Now that you are in a position to observe for yourselves in Toronto the results of the Koch treatment, I shall confine myself in my future letters to giving you an account of such lectures or essays as seem of special significance.

I referred in my last letter to the meeting of the Berlin Medical Society of the 14th inst., in the course of which Prof. A. Frankel and Dr. Korte, of the Urban Hospital, had both of them somewhat depressing cases to record in contrast to the cheerful views of Dr. P. Guttman, of the Moabit.

The discussion was continued on Wednesday night (21st), when Virchow exhibited, without much comment, preparations from an autopsy conducted that morning at the Charité. The patient, a workman of fifty-four years, had been admitted into the hospital in October, suffering from difficulty of breathing, the result of pleurisy of the right side. His condition remained satisfactory until November 26th, when he was subjected to the Koch treatment for the first

time. From that date until January 9th, he had five injections of five mg. each, to which he reacted strongly. Since the last injection there had been continued fever till death, on the morning of the 21st. The autopsy showed old consolidation of the apices, with small caseous spots in the right apex, and the remains of pleurisy, but *extensive miliary tuberculosis of the lungs, spleen, liver, and kidneys, of quite recent origin.*

The inference one is obliged to draw from Virchow's statement of the case is that the treatment attacked the latent tubercular deposit in the right apex, broke down the protective wall which had been built up by a natural healing process in the lung, and admitted the imprisoned bacilli to the circulation in such a way as to produce the innumerable new centres of development throughout the body referred to.

Ewald continued the discussion, claiming that Guttman's views were too optimistic. He did not deny the numerous improvements recorded, but the reverse side of the medal shows an undoubted tendency to hyperæmia, and a possible metastis. In regard to the latter, he cited one case of miliary tuberculosis of the pleuræ, which he did not venture to attribute to the treatment till after Virchow's utterances. Personally, he did not yet care to decide between "post" and "propter hoc," but he obviously leaned to the latter view; in certain cases where there had previously been no fever, the injection had given rise to a hectic condition which was undoubtedly unfavorable. He therefore felt in relation to a patient desiring the Koch treatment as a surgeon does before a serious operation—the issue may be *very* favorable, but it is *uncertain*, even in incipient cases. For the latter, therefore, he would be inclined to prefer other methods of treatment, such as the creasote treatment advocated by Frantzel, from which favorable results, without any disagreeable consequences, have been obtained.

Since Virchow's statement, a certain Dr. Liebman, of Trieste, claims, in to-day's *Berliner Klin. Wochenschrift*, to have found tubercle bacilli in the blood after the Koch treatment. Ewald, who is the editor of the journal, has failed to do so; and I can hardly believe that this would have escaped the observation of numerous workers who have been studying the

condition of the blood during the treatment in Berlin.

At the same meeting Dr. Israel, surgeon to the Jewish Hospital, stated that he had found that the injection did not invariably attack tubercular issue; that when it did it sometimes occasioned surrounding inflammation instead of necrosis of the tubercular tissue, and that the therapeutical value in surgical cases remains yet to be determined.

After such a meeting it is not surprising that there should be a strong revulsion against the Koch treatment—yet that it is not entirely justified is evident from utterances of distinguished surgeons like Bardeleben and v. Es-march, and physicians like Baumler and Fur-bringer.

It is not surprising also that Koch should, under the circumstances, be nervous and upset, and yet he has reason to be satisfied with the progress of the cases treated under his own immediate care. The antagonistic views of a part of the profession have undoubtedly caused the Government to hesitate about making the remedy a State monopoly; but the preparations for the new institute for infectious diseases go on apace. I shall shortly send you a description both of the clinical and scientific departments of the same.

Koch's disclosure of the other day was perhaps hastened by Virchow's address; he may be more explicit after a paper by Hueppe, of Prag, which appears to-day, on "The Nature of Koch's Lymph," and which declares that the lymph is a mixture of metabolic products of the tubercle bacilli, with the remains of the unaltered nutritive solution in which the culture was grown. He says that every one acquainted with the use of technical language would take it for granted, from what Koch said, that he had used a solid nutritive medium, and had extracted with forty per cent. glycerine the bacilli scraped off from it; but he urges that such an extract could never contain the thirty per cent. pepton present in Koch's lymph, and states that he has been able by evaporating a six weeks' culture in glycerin Pepton Bouillon to arrive at a lymph similar in external appearance and chemical reactions to Koch's, and giving similar effects with the same doses on tuberculous guinea-pigs. He has, however, not experimented with his lymph on man.

It is to be hoped that before further clinical experiments with new lymphs are made, Koch will have published his methods in detail, and that improvements will be arrived at scientifically and not empirically. In the meantime it is easy enough to follow Hueppe's receipt by devoting to it the necessary time, and I hope to be able to compare in the laboratory the results of the two products.

I referred in one of my letters to the gulf between laboratory experiments and clinical observations, which does not always appear easy to bridge. Here is an illustration of that: Koch, in his recent paper, states that he observed that a second inoculation of tuberculous material in an already tuberculous guinea-pig produced no local tuberculosis. An interesting case has now been recorded of a patient with pulmonary consumption, who infected himself with lupus by scratching and moistening with saliva a great bite on his hand. The case is also interesting as indicating how carefully phthisical patients ought to be instructed as to the infective nature of their sputum.

This letter may be taken as reflecting the present anti-Koch feeling in Berlin; my next may possibly show that the pendulum has again swung the other way; the circumstance that the proper clinical application of the remedy has not yet been arrived at does not diminish the importance of the discovery from a scientific standpoint, and the hopes are still bright that it ushers in a new era in the treatment of infectious diseases.

## Selections.

EXTIRPATION OF THE VESICULÆ SEMINALES FOR TUBERCULOSIS (by Dr. E. Ullmann of Vienna).—"The prostate was exposed by a semi-circular incision in the perineum, midway between the anus and scrotum, according to the method recommended by Prof. Zuckerkandl. After dissecting away the rectum, a sound was introduced into the bladder, so as to cause protrusion of its posterior wall, and in this manner the seminal vesicles and vasa deferentia were brought distinctly into view. Both organs were found to be markedly infiltrated, the right being the seat of a caseous degeneration. After a careful dissection, the seminal vesicles were re-

moved, together with the right vas deferens, and a portion of the upper surface of the prostate, which was the seat of a small abscess. Notwithstanding a severe secondary hemorrhage, which necessitated a reopening of the wound and tamponing with iodoform gauze, the patient made a rapid and excellent recovery, and his health, which before the operation had been much impaired, was completely restored. The author thinks that the obscure symptoms of tuberculosis of the seminal vesicles are responsible for the fact that the operation has not been previously attempted. He regards himself justified in recommending it in cases of primary tuberculous orchitis, or epididymitis, in which one or both seminal vesicles are affected, and also in primary tuberculosis of the seminal vesicles. He does not consider the resulting impotence as a contra-indication to the operation, since it is a well-known fact that patients, suffering from tuberculosis of the seminal vesicles, always lose their sexual power within a short time; and indeed this impotence may be regarded as one of the chief symptoms which characterize the disease."—(*International Journal of Surgery*, May 24, 1890.)—*Edin. Med. Jour.*

CONCEALED ACCIDENTAL HEMORRHAGE.—Dr. Henry C. Coe, of New York (*Amer. Jour. of Obstetrics*, February), reported a case of concealed accidental hemorrhage during labor, in which the patient died about an hour after the delivery of a dead child. He is preparing a paper on this subject, and asks the profession to favor him with reports of cases of serious hemorrhage from premature detachment of the placenta, especially such as occur during labor. Reports sent to the editor of THE PRACTITIONER will be forwarded to Dr. Coe.

FOR LOCAL ANÆSTHESIA.—At the Philadelphia Hospital, local anæsthesia for minor operations is obtained by combining ten parts of chloroform, fifteen of ether, and one part of menthol, and using a mixture in a hand atomizer. After one minute's application of the spray, such a degree of anæsthesia is produced that incisions can be made for the removal of growths, opening a felon or an abscess, without causing pain.



THE  
Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, MARCH 2, 1891.

MEDICAL EDUCATION IN THE UNITED STATES AND CANADA.

We have received the admirable report on medical education in the different medical colleges of the United States and Canada for the session 1889-90, published by Dr. John H. Rauch, secretary of the Illinois State Board of Health. It contains a vast amount of information about all the colleges, including their requirements, number in attendance for the last ten years, number of graduates, etc.

There are still grand opportunities for raising the standard in some parts of the Union; for instance, we find such records as the following from certain medical schools: "Requirements for admission, *none*; for graduation, (1) twenty-one years of age; (2) good moral character; (3) two full courses of lectures; (4) satisfactory examination." We believe that in such the examinations are generally *satisfactory*. The great republic surely makes a farce of its boasted freedom when it allows such atrocities as these two-year mills to grind out ignorant incompetents to prey on its credulous and gullible citizens.

North America surpasses the world in its machinery for manufacturing doctors. Whence come they and whither do they go? Will the supply soon meet the demand? In Canada there were, last year, 1,564 medical students, with 361 graduates. In the United States there were 14,884 students and 4,492 graduates. These figures should be encouraging to those who feel nervous about the supply.

Our medical schools are certainly doing good work as far as quantity goes. They are working with heroic patriotism to meet the demand before mentioned. Some of them have still vacant

seats, especially for those who wish to take full courses of didactic lectures, frequently repeated. There is a positive charm about lecturing to large classes and raking in proportionate heaps of shekels. Laboratory and bedside work is somewhat slow, difficult, and expensive. Modern ideas on these points should be repressed. Those schools which are trying to keep abreast of the times are likely to interfere with vested rights. We are told that such interference would be a monstrous injustice, and will not be tolerated in this province at all events.

Some of these matters will shortly be considered by the Ontario Medical Council in revising the curriculum. The divine right of lecturing *ad infinitum et ad nauseam* is being endangered. Medical students are begging for short intervals between daylight and dark for work in the laboratory, dissecting-room, mortuary, hospital, and dispensary. But some of our most experienced teachers say that such radicalism should not be encouraged; they have their didactic lectures, carefully prepared many long years ago: let the students attend these courses twice—and thrice, if they wish. A little dissecting and hospital work will be thrown in, but not enough to interfere with the crowning glories of didactic lecturing.

Why bother about new-fangled and useless notions respecting biology, chemistry, pathology, and bacteriology? Recent advances in these branches necessitate an amount of study, a division of labor, and a vast expenditure, which are highly objectionable. If, perchance, the costly appliances for the demonstration of these subjects be brought into the country, and if suitable and well-equipped laboratories be erected, there is a feeling in certain quarters that medical students should be prevented from participating in the benefits to be derived therefrom. We may say, however, that such views do not meet with the enthusiastic approval of the profession of Ontario.

VOMITING OF PREGNANCY.

Obstinate vomiting of pregnancy occasionally leads to fatal results, even when all known methods of treatment have been tried. Dr. Angus Mackinnon, of Guelph, published a short paper in the *American Journal of Obstetrics* in which he adopts the idea of Dr. Graily Hewitt,

that displacement of the uterus is generally, if not universally, the cause. He thinks the vomiting and straining increase the flexion of the uterus and force it lower down in the pelvis, thereby aggravating the symptoms; and proposes for the relief of such condition that a speculum should be introduced, and the vagina packed with absorbent cotton in such a way as to raise and support the uterus.

He reports two cases where this method was successful after other means had failed. The vagina was carefully packed, and the packing was renewed every day for a week. In each case the vomiting ceased after the first day. After the week of packing a pessary was introduced, and worn for six weeks by one patient.

This plan is well worthy of a trial after constitutional remedies, local applications of cocaine, etc., to the os, and dilatation by Copeman's method have failed. We believe, however, that in certain cases nothing but the induction of abortion or premature labor will save the patient's life, and in such this procedure should not be too long delayed.

#### ONTARIO MEDICAL ASSOCIATION.

The time is drawing near again for the annual meeting of our Provincial Association, as we are reminded by the card in our advertising columns. We are glad to be able to announce the subjects for the special discussions, which have more than usual interest.

In medicine, Dr. McPhedran will read a paper on the "Cardiac Complications of Rheumatism," on which subject his investigations give him great weight.

In surgery, Dr. Teskey will speak on the "Cause and Treatment of Carcinoma," dwelling chiefly on the pathological conditions.

In Gynecology, Dr. Eccles, of London, will discuss the treatment of "Uterine Fibroids."

Dr. R. A. Reeve, in otology, will discuss "The Points of Interest to the General Practitioner," a subject in which his observations cannot fail to prove of great value.

Our American visitors will include, as we announced last issue, Howard Kelly, of Baltimore, who will speak on "Gynecology from the Standpoint of the General Practitioner," and N. Senn, of Milwaukee, who will take up the "Surgical Treatment of Intussusception."

Dr. Kelly is one of those men who has risen speedily into notice by dint of great energy and a brilliant method: while Dr. Senn is not only a clever surgeon but an orator. In addition, we hope to be favored by a paper from Dr. F. Shepherd, of Montreal, probably the ablest of the surgeons of that city.

It behoves the members of the Association, by their personal presence and contribution, to make the eleventh meeting the best in the annals of the Ontario Medical Association.

#### Meeting of Medical Societies.

##### PATHOLOGICAL SOCIETY OF TORONTO.

October 25, 1890.

The President, Dr. J. E. Graham, in the chair.

##### MALIGNANT GROWTH OF THE PERITONEUM.

Dr. H. C. Scadding presented a specimen from a book-keeper, aged 68, a ruddy, stout, healthy man, who was, in January last, seized with acute pain of a "bursting" nature, referred to the region of the left nipple. This, which was thought to be angina pectoris, was relieved by the use of nitro-glycerine. In May he again sought advice, complaining of pain in the same region, and in the stomach, no hæmatemesis or melæna: for this pepsin was given. He again appeared during August, and was found to have rapidly run down and to have lost a great deal of flesh. There was now found a tumor in the left anterior axillary line. Death ensued after two weeks of severe pain. *Post mortem* examination revealed the fact that the omentum, the surface of the liver, under surface of the diaphragm, and the mesentery, were studded with nodules of new growth. The tumor found in the axillary line had involved the fourth, fifth, and sixth ribs, and projected, pushing the pleura before it. This tumor, which was found only two weeks before death, was no doubt secondary.

Dr. McPhedran regarded the case as one of primary malignant growth of the peritoneum, for the peritoneal surface of the liver and of the diaphragm were covered by innumerable small growths, like a lot of cherries scattered over it. These growths did not in any way implicate the substance of the liver or of the diaphragm.

Drs. A. B. Macallum, J. Caven, and Acheson, took part in the discussion.

The specimen was referred to the microscopical committee for further examination, to report at the next meeting.

#### CALCULI IN URETER.

Dr. John Caven presented a kidney, in the ureter of which were lodged, about half an inch apart, two calculi, the nearer being an inch from the pelvis of the kidney. The specimen had been obtained from a child eight years of age, who had hip-joint disease. The liver, spleen, and kidneys had, to the naked eye, the amyloid appearance, but no reaction could be obtained from the use of iodine in either alcoholic or aqueous solution. The kidney was really of the large white variety. There was no hydronephrosis, so that the ureter had not been occluded. It had been suggested that during the examination of the kidney the calculi had been forced into the ureter. The fact that there was not any destruction of the kidney substance showed this to be impossible. Urine was seen to pass from the end of the cut ureter, making its way past the calculi, which were angular. This explained the escape of the kidney. The bladder was normal.

Dr. Thistle said that on four occasions during the life of this patient there had been almost complete suppression of urine, with symptoms of uræmia, followed in a few days by the passage of blood in the urine and the relief of the symptoms. There had, however, never been any complaint of pain such as occurs in renal colic.

Dr. McPhedran was of the opinion that the uræmic attacks, which had been occurring for the last three or four years, were dependent not upon the calculi, but rather upon the kidney condition. There had never been any pain complained of which would give rise to a suspicion of renal calculus.

#### INTESTINE OF CHRONIC DYSENTERY.

Dr. W. P. Caven presented the intestine of a woman, aged 48, who had been twelve weeks in bed with symptoms showing great irritation of the bowel. When the patient was seen by him she was in a moribund condition, having, during the night, some twenty-four profuse watery evacuations—foul smelling, and containing pus cells. Palpation discovered some tumor of the transverse and descending colon, painful on pressure. Pulse, 140; temperature, subnormal.

*Post mortem* examination showed all the organs anæmic, especially the lungs, but otherwise normal. The large intestine was found greatly thickened throughout, studded with numerous small ulcers, which extended into the muscular coat. Just above the sigmoid flexure was a stricture. He regarded the case as one of chronic dysentery. Is the stricture the result of this or of previous attacks? He did not think it malignant. Dr. Cameron had seen the patient in consultation with another physician, who told him that she had had typhoid fever. At the time of consultation defervescence had existed for a month or more. At that time she was evidently suffering from ulceration of the intestine.

Dr. Ferguson suggested that the stricture was an old one.

Dr. Graham thought that the ulceration was not due to the stricture.

#### ULCER OF PYLORUS.

Dr. H. W. Aikins presented a specimen of ulcer of the pylorus from a middle-aged man, who had been seized with sudden, intense pain in the stomach, and had died twenty-four hours later. There was no history of previous illness, burn, or trauma. The pylorus was not stenosed. There had not been found any extravasation of blood, nor any ecchymosis in the stomach around the ulcer.

Dr. McPhedran thought that the peculiar position of the ulcer in the pylorus indicated that the ulcer was of malignant origin, yet there was nothing in the appearance of the specimen to corroborate the idea.

Dr. Cameron thought the position of the ulcer pointed to a foreign body as the cause.

Dr. John Caven exhibited a number of microscopic specimens.

The first was from the small intestine of a horse, and had been sent to the exhibitor as showing the enteric lesions of typhoid fever. The history was said to be that of typhoid. Examination showed dense small cell infiltration of all coats of the gut, in minute spherical-shaped patches, visible to the naked eye. In most of these patches a mass of micrococci were to be seen, centrally located. There was no ulceration nor abscess formation, although the appearances were those of pyæmia. No cultivation or inoculation experiments were possible, since the material was received in alcohol.



The second exhibit was of specimens showing a supposed phagocytic operation of giant cells. The exhibitor has come to the conclusion that there are two distinct forms of giant cell, both of which can be seen in tuberculosis. There appears to be (1) a giant cell which fills the office of a phagocyte. This cell has no processes connecting it with the surrounding connective tissue. It is multi-nuclear, and frequently contains pigment in large quantities. The general tendency of this cell is to roundness in shape; this was illustrated by a specimen of an epithelium in one of the cell masses, of which a number of giant cells were found which had apparently removed a considerable part of the mass, and were engaged on the corneous tissue in its centre.

Another illustration of the phagocytic type was shown in specimens of tubercle in which were giant cells laden with pigment.

In connection with the phagocytic role of giant cells in cancer, the experiments of Podwisotsky's on hepatophages are interesting. He induced necrosis of liver tissue by injections of pure alcohol, and found that the necrosed mass was removed by giant cells. These giant cells he has named hepatophages.

The second form of giant cells is one which is fibro-blastic in its function. This form has distinct and numerous processes connecting it with the surrounding connective tissues. It carries no pigment. It has a tendency to become oblong or oval in shape, is frequently found on the outskirts of a tubercle nodule, and appears, in some cases at least, to spring from the wall of an alveolus in the lung. No bacilli have been seen in this form.

Dr. Acheson exhibited microscopic specimens of pus containing gonococci from the vaginal discharge of a young girl, 7 years of age, and from a case of ophthalmia monotorum.

Dr. Graham asked if the case was to be regarded as one of gonorrhœa, because the gonococci were found. Such discharges were often found in children.

Dr. Acheson replied that for a diagnosis of gonorrhœa it was necessary that the cocci should be found in pairs and chains in pus cells, and surrounded by a capsule. In this specimen the clear spaces surrounding the pairs could be easily made out.

Dr. Primrose presented a card specimen of necrosis of tibia, which had been prepared by standing for five months in a weak solution of liquor potassæ.

The society then adjourned.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON ORTHOPÆDIC SURGERY.

Stated meeting December 19th, 1890. V. P. Gibney, M.D., Chairman.

### THE NON-OPERATIVE TREATMENT OF DELAYED UNION IN FRACTURE OF THE LEG.

Dr. John Ridlon presented a paper upon this subject, illustrated by two cases.

The first patient, Thomas C.B., thirty years old, unmarried, gave no history of any constitutional disease. On March 22nd, 1888, while endeavoring to escape a passing team, he sustained a compound fracture of the right tibia in the lower third. The fracture was treated by a plaster of Paris dressing, under the direction of a very well-known and skilful surgeon. The plaster splint was renewed from time to time, yet on September 17th, when he was admitted to the Roosevelt Hospital, there was still slight motion at the seat of fracture, and Dr. Frank Hartley found, on exposing the parts at the time of operation, that there was an oblique fracture of the tibia, passing from below upward. The space between the fragments was filled with a thin wedge-shaped piece of fibrous tissue. At the inner edge of the fracture, there was a thin line of bony union. The fragments were freshened, and then wired together, and the plaster dressing applied. He remained in bed for thirty-one days, but at the time of his leaving the hospital, on October 22nd, the union was not solid.

December 27th. He was transferred to Dr. Ridlon's care.

January 10th, 1889. The plaster was removed. There was distinct antero-posterior motion and soft union, but no callus could be felt. There was some tenderness on motion and pressure at the point of fracture. Only moderate constriction was made, as the dependent position after the removal of the plaster caused abundant œdema. The patient was allowed to go out of doors at once. At the end of nine weeks union was solid, and there was abundant

callus. The patient said then that he had continued the use of the crutches for some time, but had removed the upper supporting part of the splint at the end of the third week, as it was uncomfortable. The lower portion of the splint, which acted only as a lateral support, he continued to wear for about five months.

The other patient, Wm. D., twenty-two years old, was admitted to the New York Hospital on May 26th, 1890, with a compound comminuted fracture of the right leg at the middle and lower thirds. The bones projected anteriorly through a large lacerated wound: there was much displacement and much contusion. Dr. W. T. Bull removed the loose fragments, and secured apposition and good drainage. A rise of temperature necessitated a change of dressing, and Volkmann's splint was applied for three weeks, and after this, plaster of Paris splint with a fenestrum. Union was delayed. He was allowed to walk about on crutches and partly on the leg for two or three weeks prior to his discharge on August 5th, for insubordination. At this time there was some deformity and he was still wearing the plaster splint. When the patient came under Dr. Ridlon's care, on Sept. 22nd, no callus could be felt, but there must have been soft union, as the fragments could not be displaced. The plaster splint was discontinued, and in its place the caliper splint of Thomas, of Liverpool, was applied, being so modified as to prevent motion at the ankle. A laced leather sleeve was also added. A band buckled across the front just above the patella prevents forward bending of the knee, and another band below the knee surrounds the leg and outer bar, and furnishes the means of obstructing the circulation to any desired extent. The leather sleeve adds to the patient's comfort, but care should be taken that it is not sufficiently tight to check the desired œdema. As a result of this treatment, solidification slowly but steadily took place, and an abundant callus was thrown out. At the end of nine weeks no motion could be detected, and he could walk across the room without the splint or any support. After the application of the splint, the crutch was used for only a short time, and he was soon able to walk three or four miles without discomfort: and after eight weeks, he returned to his laborious occupation of unloading vessels.

These cases served to illustrate the treatment advocated by the author in cases of delayed union, which he was careful to distinguish from non-union or pseudo-arthritis. The normal union of a fractured bone occupied a pretty definite period, and when delayed beyond this time, it was properly a case for non-operative treatment; whereas such treatment was entirely inapplicable to cases of non-union. For delayed union, no cutting operation should be thought of until every other known means and an abundance of time have been expended.

The present fashion of treating fractures by plaster of Paris bandages led to deficient immobilization, or else to constriction at the seat of fracture. The author thought no dressing had ever been devised for the treatment of fractures which so poorly accomplished the end in view, *i.e.*, immobilization without undue compression. Good results were obtained with these dressings, but their proper use required greater skill and experience than any other dressing. If plaster were applied before swelling occurred, it prevented the formation of the normal amount of callus, and in a certain number of cases resulted in delayed union. If applied after the occurrence of swelling, the dressing soon ceased to immobilize the part, and so not infrequently caused delayed union.

The treatment advocated by Dr. Ridlon was that employed by Hugh Owen Thomas, and in the words of that surgeon consisted in "hammering, damming, depending, and fixing," the bones involved in the fracture.

The hammering may be done with or without an anæsthetic, and should not be repeated oftener than once in two weeks. Dr. Thomas at first made use of intermittent constriction, but in 1881 he employed continuous "damming," and resorted less to hammering. The constriction should be sufficient to cause abundant œdema, but not enough to cause pain or interfere with the nutrition of the limb. The proper immobilization of the fracture is the most important element of treatment, and to do this the bones must be held without producing constriction at the seat of fracture: the muscles covering the part must be kept at rest by continuous fixed traction, and not nagged by elastic or intermittent traction; and the joints which are moved by these muscles must be absolutely

locked. When there is a fracture of the bones of the leg, the knee and ankle must both be locked, and it was on this account that he had modified the caliper splint of Thomas in the way already described. This objection applied with even greater force to the well-known splint of Dr. H. H. Smith, of Philadelphia.

Dr. N. M. Shaffer said that his experience with ununited fracture dated back to 1876, when he saw in consultation an ununited fracture at the junction of the upper with the middle third of the femur. The injury had been received about three months previous, and there was much overlapping. He applied pressure by means of a felt coaptation splint and a traction apparatus, which allowed of the patient walking about with crutches. After a few weeks, he walked on the limb, with the traction splint, and in about three months the parts were united. He had had since then three other cases of fracture of the shaft of the femur, which he had treated in the same manner, and with equally good results. He thought that the method advocated in the paper was not necessary, and that as much could be done by securing apposition of the fragments, direct pressure at the point of fracture by means of a coaptation splint, and the maintenance of the good position by the use of some traction apparatus. Change of climate also exerted a strong influence.

Dr. A. B. Judson thought that cases of this kind, which had been treated by Dr. H. H. Smith, as well as some treated by the late Dr. E. D. Hudson, of New York, showed that the desired result could be obtained by the use of an apparatus which would permit the patient to walk around. Union was brought about under these circumstances, probably by the friction, irritation, and congestion of the parts caused by the walking. Dr. Thomas' experience seemed to confirm this view, but the treatment by hammering he considered cruel. He was reminded of a suit for malpractice which was brought against Dr. Garcelon, of Maine, on account of an ununited fracture. In order to excite sympathy in his behalf, the patient had applied a rough home-made apparatus, and had gone about the country in this way for some time previous to the trial; but when the case came to trial it was found that union had taken place.

Dr. S. Ketch spoke of a boy who had received

a compound fracture of the femur, which by injudicious treatment had failed to unite. When he saw the case in consultation, the boy was suffering great pain; and partly with a view to relieving this, he applied a long traction splint without any coaptation splint. The pain was almost immediately relieved, and the local condition also improved, so that within a month he was walking about on a hip-splint.

Dr. R. H. Sayre related his experience with a case of delayed union in a fracture of the leg, occurring in a syphilitic subject, who was also in the early stages of locomotor ataxia. He was a very heavy man, and there was a marked angular deformity. After irritating the ends of the bones by rather severe manipulation with the hands, he applied plaster of Paris, and renewed it from time to time for six or eight months. During the first month he used crutches, but after this he was able to put the foot to the ground. At present there is firm union of both bones. In this case there was much cedema without the use of a constricting band, for the patient's heart and kidneys were in bad condition. Dr. Sayre thought that the hammering which the weight of the body produced upon the parts after they have been placed in position was more efficacious than a hammering of the sides of the fragments by means of a mallet. He thought it quite possible that too prolonged traction in cases of fracture of the femur might be responsible for some of these cases of non-union, for it was not improbable that more traction was often exerted than was sufficient to overcome the already tired muscles, and as a result the bones were drawn too far apart to secure good union. He could not accept Dr. Ridlon's criticisms upon the use of plaster of Paris as a surgical dressing for fractures in general. If properly applied immediately after an injury, and after the parts were in proper position, they could be immobilized, and there would be very little swelling. The swelling was often due to obstruction of the circulation by the abnormal position of the bones.

Dr. W. R. Townsend spoke of a case which he had presented to the Surgical Section last year. The boy had fractured his femur at Seabright, and notwithstanding skilful surgical treatment, there was no union after three months. He was brought to the Hospital for Ruptured



and Crippled in this city, and a long traction splint was applied, which enabled him to go about. Walking around, together with the change of air, brought about speedy improvement, and after eight weeks there was good union and the apparatus was removed.

Dr. C. A. Powers said that a considerable number of cases of delayed union in fractured legs were yearly referred to him at the Out-Patient Department of the New York Hospital after their discharge from the wards. It was his invariable custom to have them walk about with a light plaster of Paris splint, and his results had been uniformly good. He had certainly treated during the last year six or eight such cases, and in no instance had it been necessary for them to return to the In-Door Department on account of failure to secure good union. He was familiar with the history of Dr. Ridlon's second case, who was originally a patient in the New York Hospital. He believed that had this patient walked about without the application of a brace he would most probably have obtained good union in about the same length of time. The delayed union in this case was distinctively due to the severe nature of the compound fracture, this being followed by suppuration and some necrosis. He thought the means advised by Dr. Ridlon excellent, yet braces of this kind were not easily within the reach of many country practitioners, and more convenient means would accomplish the same results. He could not understand Dr. Ridlon's strictures upon the use of plaster of Paris, and he heartily endorsed what Dr. Sayer had said on this subject. If deprived of the use of plaster of Paris, he would feel that he had lost the most valuable means of all means at his command for treating fractures of the leg or arm. Out of five or six hundred cases of fracture of the upper extremity, which had been under his care, there had been very few cases of delayed union which had not yielded to rubbing of the ends of the bone, blistering, or very light hammering, the latter not sufficient to cause pain. In two or three obstinate cases, the ends or the bones had been drilled; the patients were treated as out-patients, and with invariably good results.\*

\*He did not remember that he had ever been obliged to refer a patient to the hospital for operative treatment. He thought that similarly good results would follow this plan of treatment in most cases of delayed union in fractures of the leg.

Dr. Ridlon, in closing the discussion, said that he thought the application of a snug plaster or other bandage lessened the amount of swelling, and that the less swelling, the less the callus, and *vice versa*. There was no question about the efficiency of plaster of Paris when skilfully applied, but it was not always so applied, and he had seen very unpleasant results from its use. As regards the effect upon these cases of walking about, he would say that his first patient walked around his room with a well-adapted plaster splint for two-and-a-half months after the operation, without any gain in solidification: whereas, three days after beginning the treatment which he had described, the patient was able to walk some distance. The second patient had been walking around in the hospital with crutches, and after leaving there continued to do so for about three months more before coming under his care. Under the new treatment he was able to dispense with one crutch at once and with the other very soon afterward, and at the end of eight weeks returned to his work. These two cases were, of course, not sufficient basis for any definite conclusions, but they were presented for the purpose of illustrating a plan of treatment not very commonly known or employed here.

Dr. Royal Whitman presented a case of fracture of the neck of the femur in a child aged seven years.

#### UNIFORM NOMENCLATURE IN ORTHOPEDIC SURGERY.

Dr. W. R. Townsend took this for the theme of his paper, which was as follows: The object of writing this short paper is to elicit a discussion from the members of the Orthopedic Section of the Academy of Medicine upon a subject to which, of late, little attention seems to have been paid, yet to which much attention and time must be given, unless one is continually provided with a dictionary when reading: for, to read intelligently the medical literature of to-day, a study of etymology and synonyms is all-important: and even with this knowledge, we may still often be in doubt as to what disease is referred to, as some authors describe somewhat different affections under the same name. The spondylitis of medicine is essentially different from the spondylitis of surgery. The former is a rheumatoid peri-arthritis, affecting chiefly the

spinous processes and lateral masses, the inflammation encroaching on the foramina of exit, and producing various painful neuralgias: the latter is Pott's disease or tubercular osteitis of the vertebræ, etc.

Many reasons exist for this confusion and multiplication of terms. Many diseases were so inaccurately described at first that the name suggested, could easily be improved upon, and later writers have done so with a view of simplifying matters, and have thus increased our list of synonyms; again, popular terms or names that could be easily understood by the laity have been introduced from time to time, until in some cases such terms have almost entirely superseded the more exact and scientific ones. Increased knowledge, such as the discovery of the tubercle bacillus, has caused us to classify some diseases as tubercular, just as we classify others as syphilitic, or malarial, and this list will probably be still further increased.

It is not my purpose to take any disease and weary you with a list of the different names it has gone by from the earliest times to date, but will simply give several examples.

In a recent work on Orthopedic Surgery, the same morbid process or disease, when it affects the spine, is known as Pott's disease; when affecting the hip or sacro-iliac joints, as hip-disease, or sacro-iliac disease; when affecting the knee, as tumor albus; and in the case of the other joints, simply as ankle-joint or tarsal disease, etc. Of course all or nearly all the other terms in common use are referred to, but it is under the above headings that the disease is described.

The hospital reports of the Roosevelt, New York; St. Luke's, Mt. Sinai; The Children's Hospital, Boston; The New York Orthopedic, and the Hospital for the Relief of the Ruptured and Crippled, show this same variety of expression. In them we read of hip-disease, hip-joint disease, tuberculosis of the hip, tuberculosis of the hip-joint, morbus coxæ, chronic disease of the hip-joint, and osteitis of the femur. In other words, in seven different reports we have seven different names for the same disease. Other examples could easily be cited.

This multiplication of terms leads to confusion and much difficulty in actually arriving at a true idea of the relative frequency of any one disease, unless we thoroughly appreciate these

facts; for, who can say that the disease was of the same nature, when on one page we read of tuberculosis, on the next of caries, and the next of osteitis of the tarsus?

Much of this variety and confusion of terms could easily be avoided.

This problem, although presenting difficulties, it seems to me, ought to be discussed. Its solution depends simply upon the profession agreeing upon certain terms to describe certain diseases, and then strictly adhering to them. More care in diagnosis will result; a synovitis or arthritis will not be classified as an osteitis; and all the different diseases of the knee, for instance, will not be included under the terms, white swelling, or knee disease.

Dr. Ketch offered his congratulations to the author for the novel and interesting subject upon which he had written. He thought, however, that it would be very difficult to find one name which would cover the various conditions of disease found at the hip-joint. He agreed with the author of the paper that such terms as "tumor albus," and similar expressions, should be discarded.

Dr. H. W. Berg thought pathology was at present too vague to admit of the use of a more exact nomenclature.

Dr. R. H. Sayre reminded the members that Dr. J. W. S. Gouley had devoted much time and labor in the preparation of an exhaustive work on medical nomenclature and classification of diseases. In it were mentioned terms which were very curious, although etymologically correct, and the profession would be slow to adopt such expressions. For instance, castration is spoken of as orchiectomy.

Dr. Judson was of the opinion that there was no likelihood of anyone being led astray by the present nomenclature, and other authors besides Dr. Gouley had expended much labor upon similar works, which were of doubtful utility.

Dr. Townsend, in closing, said that his paper had been misunderstood, for no question of pathology was involved. He had simply deprecated the use of so many terms to express one and the same condition.

#### TUBERCULOUS JOINT DISEASE TREATED WITH KOCH'S LYMPH.

Dr. N. M. Shaffer presented on behalf of Dr. T. Halsted Myers a report of the following cases:

Case 1.—Girl, thirteen years. Hip-joint disease had existed for three years, abscesses discharging more or less for two years and ten months. Moderate glandular enlargements existed all over the body. December 15th, 1890: examination showed no deformity except shortening and muscular atrophy. The motion at the joint was very considerable, and no pain had been felt for months. Abscesses below the great trochanter discharged through six sinuses, several of them near together, surrounded by a dark purple areola, covering an area of about two by three inches. This patient received half a milligramme of the lymph at 3:30 p.m. No reaction was observed. December 17th: a second inoculation of half a milligramme was followed by a slight reaction, the temperature rising to 101. No change was noticed in the condition of the joint. Two of the sinuses were closed, and the discharge from the other was unchanged. December 19th: the purple areola has disappeared, leaving only little red islands about each sinus. The skin had become dry and scaling where it was previously necrotic.

Case 2.—Boy, six years. Has had hip-disease twenty-six months; abscess discharging intermittently for four months. December 15th: half a milligramme of the lymph was injected at 3:30 p.m. Examination at that time showed the limb to be flexed at 155 degrees, abducted 15 degrees, and rotated outward 30 degrees. There was shortening and atrophy, and a sinus was about to open again. The limb was moderately sensitive, and there was less than ten degrees of flexion. Reaction came on in ten hours. Temperature at that time 101.4; night-cries began anew, and the joint became very painful. On the following morning this was very evident, and there was almost no motion in the joint. Flexion and abduction were also increased, and the inguinal and cervical glands seemed larger. With the fall in temperature, the pain and deformity also diminished markedly, but not entirely, and the original amount of motion was restored. December 18th: a second inoculation of half a milligramme was given and again the temperature rose, the joint became actively sensitive and more deformed, and motion was practically *nil*. This was the condition at noon. The site of the sinus was no longer purple, and was covered by dry, scaly skin.

Dr. Shaffer also presented a report of some of his cases which had been treated according to this method. (See *Medical News*, December 27th, 1890.)

Dr. R. H. Sayre asked if much of the increase of pain noticed in one of the cases might not be due to the removal of the apparatus.

Dr. Shaffer replied that this patient had previously been in bed for days at a time without the apparatus, and yet had not experienced any such pain as was present after the inoculation.

Dr. Berg thought that some of the phenomena observed might be referable to the fever which was present, just as an increase in the joint symptoms was sometimes noticed during the progress of the acute exanthemata.

Dr. Shaffer said that he had seen cases of joint disease suffer no exacerbation during the course of a typhoid fever, in which the temperature frequently reached 105 degrees, and scarlatina also often failed to affect the condition of a diseased joint. Measles, on the contrary, was particularly prone to increase the severity of the joint symptoms. Hence, there was something more than fever necessary to account for the influence of certain diseases on the condition of a joint; and in one of Dr. Myers' cases, there was no fever, and yet marked improvement followed the inoculation.

#### HURON MEDICAL ASSOCIATION.

The annual meeting of the Huron Medical Association was held in Seaforth on January 13. The president, Dr. Irving, occupied the chair.

Dr. Armstrong reported a case of an anencephalic monster, and presented the specimen. In the discussion that followed, the chief points alluded to were the influence maternal impressions had in producing monstrosities, and the difficulties in diagnosing the presentation in some of those cases.

Dr. Wood mentioned a case of an anencephalic monster with spina bifida in the cervical region, which he mistook for a breech presentation.

Dr. Holmes (Brussels) presented a boy eighteen years of age, who three years previously began to experience weakness and slight pains in the arms. At present there is atrophy of the pectoral muscles, deltoid, and those of the



scapular region, and complete immobility of the shoulder-joint.

The points discussed were whether it was myopathic, neuropathic, or myelopathic in origin. Drs. Bethune, Wood, and Irving thought that the shoulder was dislocated. The rest of the members did not concur in this view.

Dr. Elliot (Brucefield) showed a specimen of ovarian cyst that he removed from a woman four months pregnant, who recovered without a bad symptom. Two years before any cyst could be detected she had a phantom tumor, that disappeared completely under chloroform. It was pointed out that the last twelve abdominal sections performed in the county were successful. These included two removals of diseased tubes, eight ovariectomies, one hysterectomy, and one nephrectomy.

Dr. Bethune (Seaforth) presented a boy with Potts' curvature in the dorsal region, who recently had a pleurisy with effusion. He thought the chest deformity was largely due to the pleurisy.

Dr. Worthington read the history of a case he has now under observation. A man, sixty years of age, had prominent symptoms of articular rheumatism and sciatica. A few weeks later he showed signs of a small pulmonary abscess, which broke and was expectorated.

Drs. Graham, Campbell, and Gunn, thought that the lung trouble was the primary disease, and the joint symptoms were septic in origin.

Dr. Campbell read the report of a *post mortem* on a patient whom he presented before the association at a previous meeting.

The following officers were elected for the ensuing year: Dr. Smith (Seaforth), president; Dr. Armstrong, vice-president; Dr. Gunn, secretary; Drs. Elliot, Graham, and Wood, pathologists.

The next regular quarterly meeting will be held at Clinton.

## Reviews.

*The Physicians' All-requisite Time and Labor-saving Account Book.* Designed by William A. Seibert, M.D., of Easton, Pa; F. A. Davis, Publisher, Philadelphia and London.

This may be described as a combination of a day book, journal, and ledger. It is so arranged that very little time and space is

required for posting, and yet, after the entries of particulars are made, a reference to each account at any time will furnish ample information as to names of members of family who were ill, nature of illness in each case, dates and number of visits, and payments made.

As the title would indicate, it will save much time and labor when compared with any system of book-keeping for physicians with which we are acquainted. Some of our doctors in Toronto who have tried it have expressed themselves as being thoroughly satisfied with it.

## Pamphlets Received.

*Cephalotoma Verum Externum.* By Howard A. Kelly, M.D., Professor of Gynæcology in the Johns Hopkins University, Baltimore. Reprinted from the Transactions of the American Gynæcological Society, September, 1890.

## Personal.

DR. G. A. PETERS, who recently returned from England, has resumed practice in Toronto, and is located at 171 College Street.

MR. VICTOR HORSLEY, of London, England, has resigned his position as Professor-Superintendent of the Brown Institution.

PROFESSOR RUDOLF VIRCHOW will be seventy years old on the 13th of October. He will, on that date, be presented with a golden portrait medal by his professional brethren.

THE *Medical Record* announces that Professor T. G. Thomas will deliver four lectures on "The Pathology of Uterine and Ovarian Diseases," at eleven o'clock on the mornings of February 27th, March 2nd, 6th, and 7th, at the College of Physicians and Surgeons of New York.

DR. FRANK P. FOSTER, editor of the *New York Medical Journal*, has been appointed Librarian of the New York Hospital Library.

DR. A. T. CARSON, of Toronto, was in Mentone at last accounts, much improved in health.

## Obituary.

DR D. C. LEITCH.—The circumstances connected with the death of Dr. Leitch are extremely sad. He had been for some time subject to insomnia, for which he occasionally inhaled a little chloroform. On the night of February 17 he was found dead in his bed, about an hour after he retired to his room. He held a handkerchief with both hands against his face. This had probably been saturated with chloroform. The deceased was at one time editor of the *St. Marys Argus*. He graduated in Trinity College in 1874, and was for a time in partnership with Dr. Vanbuskirk, of St. Thomas. Recently he had been practising in Dutton. He leaves a widow, two daughters, and one son, who is a second year's student in the Medical Faculty of the University of Toronto.

DR. JOHN MADILL, of Alliston, died suddenly on February 15th. He graduated at McGill in 1867.

DR. D. M. DAVISON, whose death notice appears in this issue, was a brother of Dr. John M. Davison, of Toronto.

## Births, Marriages, and Deaths.

### BIRTHS.

HUNT.—At New Lowell, on Monday, 2nd inst., the wife of Dr. Hunt of a son.

### MARRIAGES.

LANGSTAFF—DONAGHY.—At the Church of the Redeemer, on February 3rd, by Rev. Septimus Jones, M.A., Miss Annie Langstaff, daughter of the late Dr. Lewis Langstaff, to John Donaghy of Quebec.

### DEATHS.

DAVISON.—At Florence, Ont., February 10th, D. M. Davison, M.D., aged 51.

HUNT.—At New Lowell, on Thursday, 12th inst., Emma, wife of Dr. Hunt, in her twenty-third year.

## Miscellaneous.

THE ONTARIO MEDICAL ASSOCIATION.—The following are the Committees for the Eleventh Annual Meeting:

*Medicine*: Dr. A. McPhedran (chairman), Toronto; Dr. Mullin, Hamilton; Dr. Henderson, Kingston; Dr. Gillies, Teeswater.

*Surgery*: Dr. Teskey (chairman), Toronto; Dr. Wishart, London; Dr. Groves, Fergus.

*Obstetrics*: Dr. Eccles (chairman), London; Dr. A. A. Macdonald, Toronto; Dr. K. N. Fenwick, Kingston; Dr. Mathieson, St. Marys.

*Otology*: Dr. R. A. Reeve (chairman), Toronto; Dr. Osborne, Hamilton; Dr. Hodge, London.

*Therapeutics*: Dr. Saunders (chairman), Kingston.

*Papers and Business*: Dr. A. A. Macdonald (chairman), Toronto; Dr. N. A. Powell, Toronto; Dr. R. A. Reeve, Toronto; Dr. Arnot, London; Dr. Moore, Brockville.

*Audit*: Dr. Gullen (chairman), Toronto; Dr. Caldwell, Peterborough; Dr. Harris, Brantford; Dr. Meldrum, Ayr; Dr. Irving, Kirkton.

*Necrology*: Dr. Lett (chairman), Guelph; Dr. Bascom, Uxbridge; Dr. Kain, St. Thomas; Dr. Powell, Ottawa; Dr. Taylor, Goderich.

*Advisory*: Dr. Henderson (chairman), Kingston; Dr. Gibson, Belleville; Dr. W. T. Atkins, Toronto; Dr. Leslie, Hamilton; Dr. Lundy, Preston; Dr. Burt, Paris.

*Arrangements*: Dr. Machell (chairman), Toronto; Dr. J. A. Temple, Toronto; Dr. James Ross, Toronto; Dr. J. E. Graham, Toronto; Dr. Atherton, Toronto; Dr. Britton, Toronto; Dr. R. A. Pyne, Toronto; Dr. Strathy, Toronto; Dr. Sweetnam, Toronto; Dr. Cane, Toronto; Dr. Macallum, Toronto; Dr. Riordan, Toronto.

The chairmen of the standing committees for 1891 are:

*Credentials*: Dr. Anglin, Kingston.

*Public Health*: Dr. Kitchen, St. George.

*Ethics*: Dr. Tucker, Orono.

*Publication*: Dr. W. P. Caven, Toronto.

*Legislation*: Dr. W. B. Geikie, Toronto.

*By-Laws*: Dr. P. Brown, Toronto.

STATISTICS show that more than 3,000 sudden deaths occur annually in England from causes not ascertained.

THE

# CANADIAN PRACTITIONER

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## Original Communications.

### SOME ATYPICAL PHENOMENA IN TYPHOID FEVER.\*

BY ALEXANDER M'PHEDRAN, M.B.,

Lecturer on Clinical Medicine in the University of Toronto.

We occupy our minds so much with the regular and striking features of typhoid fever that we are in danger of overlooking the unusual phenomena that often arise in this disease. Our books continually emphasize the important symptoms, to the exclusion of the rarer ones, that it seems but natural that we should often overlook the latter, especially if we have opportunity of seeing but few cases each season. In so common and important a disease it cannot be amiss, therefore, to direct attention to the more uncommon symptoms, and also to the deviations of some of the important symptoms from the course they are usually supposed to pursue.

1. *The Temperature*.—The description of the temperature of typhoid fever has become almost stereotyped, one text after the other repeats the description with almost exact similarity, whereas considerable variation occurs in different cases.

(1) So few cases come under observation in the initial stage that there cannot be a certainty as to the exact manner in which the temperature rises in the majority. All the authorities say it is by a gradual step-ladder-like process, without giving due prominence to the, at least, not infrequent exceptions to this rule.

Occasionally cases are met with in which the outbreak is marked by decided chill, followed by a rapid rise of temperature; in others—more numerous in my experience—the symptoms begin with vomiting and purging, like those of a choleraic diarrhoea, and the temperature is found high, or rises rapidly to its maximum. In both these cases these acute symptoms usually disappear in a day or two, and the ordinary course of typhoid fever follows. There is a possibility that such cases may have been developing for some days before, without producing sufficient discomfort to cause suspicion of the true character of the case.

In some, again, the rise of temperature is by an irregular zig-zag, reaching the maximum in five or six days; in others the rise is rapid, without unusual symptoms, the maximum being reached in two or three days; in these latter the duration of the fever is short and usually terminates by a pseudo-crisis. These atypical features are met with more frequently, and in a more marked degree, in children, whose temperature equilibrium is so easily disturbed.

(2) In regard to the daily range of temperature, it is generally considered that two observations, one taken during the forenoon and the other any time during the afternoon, are sufficient to give a reliable guide as to the range of the temperature for the day; that the morning observation gives the lowest record and the evening the highest. That this is a mistake we can readily convince ourselves by making frequent observations, as, e.g., hourly, or every two hours. We know that

\*A lecture delivered at the Post-Graduate course of the University of Toronto, December 19th, 1890.



in health the temperature varies somewhat from hour to hour, and in the febrile condition, as we should naturally expect, the temperature equilibrium is more easily disturbed, so that the variations from hour to hour should be greater than in health, and they are even so, being more marked in children, but even in adults the change may be as much as  $2^{\circ}$ .

This section of a chart (Fig. 1) illustrates this well. It is from a case of enteric fever in a child, and the observations were made as nearly as possible every two hours, when the child was awake. The first four records were made at 2.30, 7, 9, and 11 a.m.; the next four at 1, 3.40, 6, and 9.30 p.m.; the next at 2.15, 7, 9.30, and 11.30 a.m.; and the last three at 1.30, 4, and 6.30 p.m.

The observations of one day may be made when there is a decided exacerbation of temperature, and next day during a remission, indicating a lower temperature than on the first day; whereas, had the temperature been taken during an exacerbation the second day, it might have been found considerably higher than on the first day, and indicate no improvement in the patient. We have all frequently met with illustrations of the truth of this; to-day the patient seems better, but the chart reports him worse, or it may indicate an improvement that we cannot find grounds for accepting. To ensure a correct temperature record it is necessary, therefore, that several observations be made daily: it is desirable in all serious cases that such should be done in order to protect ourselves against a misleading record.

(3) As to the duration of the febrile movement, there are many departures from the ordinary, which is considered to be from twenty-one to twenty-eight days. In the first place, in some—in my own opinion, in many—the fever aborts after a duration of from seven to ten days, or even less. On a former occasion\* I described some such undoubted cases. The temperature elevation in such cases is usually moderate, but may be high; it is rapidly attained, usually in two or three days, and terminates, as a rule, by a pseudo-crisis. We meet with cases that are clearly abortive in households with one or more well-developed ones. There seems to be no more ground for denying the occurrence of such cases than of

abortive attacks of any of the acute eruptive fevers. The changes in the bowel in such cases would probably not extend beyond congestion of the Peyerian patches in the lower part of the ileum, with, in some, slight ulcerations of the patches on, and in close proximity to, the ileo-cæcal valve. The opportunity for examination in such cases is so rare that there can be no certainty as to the bowel changes.

There is another class in which the elevation of temperature is of short duration. In these the temperature, never high, falls to normal, or even below, after a few days, but the disease—the fever—does not abort; on the contrary, the other phenomena pursue the usual course and convalescence does not begin until the customary time. The following case, under my care last September, is one in point: Dr. McG., a house physician in Toronto General Hospital, had the usual prodromal headache, malaise, and anorexia; then followed elevation of temperature for not more than a week, after which it was normal, or a little below it. The facies, the peculiar odor, and the coated tongue of typhoid fever, were present; the bowels were constipated; the prostration was quite as marked as it is after a typical course of average severity, and the convalescence was quite as protracted.

In a third class, instead of febrile movement, the temperature is normal or subnormal throughout. Strubé noted fourteen such cases in a typhoid epidemic among the German troops at the siege of Paris.\* The usual symptoms were present, including delirium, which was furious in some. One died of complication, and the autopsy showed the typical enteric lesions. A few such cases occurred in the Toronto General Hospital some years ago.

I might here venture the suggestion that the febrile distendence of the third and fourth weeks of enteric fever is partly if not wholly due to septic poisoning. By this time the temperature becomes increasingly remittent, with more or less free perspirations, as occurs in mild pyæmia. This change in the temperature occurs when the sloughs are being cast off, and large ulcers, with decomposing tags of mucous membrane still adhering, have formed in the bowel—conditions favorable for the absorption of septic poisons.

\*Quoted by Shattuck, *Boston Medical and Surgical Journal*, 1889, ii p. 221.

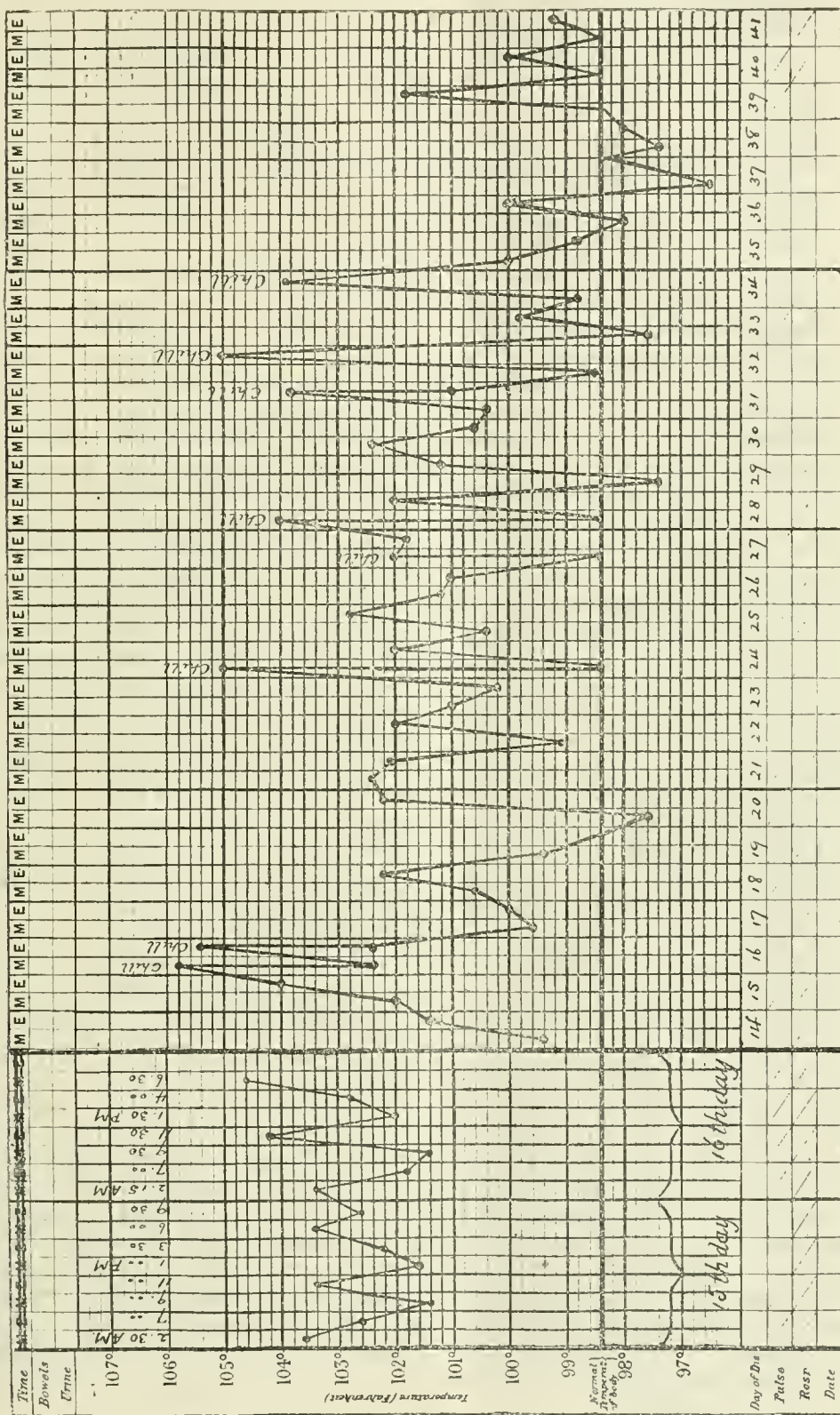


FIG. 1.  
SHOWING VARIATIONS OF TEMPERATURE  
DURING THE DAY.

FIG. 2.  
A CASE OF PHLEBITIS.

Cases terminating about the fifteenth day do not exhibit this remittent temperature, and the intestinal changes are seldom characterized by much, if any, sloughing.

II. *Relapses*.—Of more anxious concern to us, however, are the cases with protracted fever, either from complications or the occurrence of relapse. Our views as to the frequency of occurrence of relapses will vary according to our opinion as to what constitutes a relapse. Murchison defined it as "a second evolution of the specific febrile process after convalescence from the first attack is fairly established."<sup>\*</sup> Some follow Irvine in describing two varieties of relapses, the intercurrent and the consecutive. By an intercurrent relapse is meant a re- or auto-infection at any time during the course of the primary attack; the consecutive corresponds to Murchison's. An intercurrent relapse may occur at any time during the primary attack; if it occurs early it may be impossible to differentiate it from the primary, but if it does not occur until towards the end of the third week, during the defervescence of the primary fever, and extend into the fourth or fifth week, or even the sixth, there would be no difficulty in distinguishing it, unless masked by some complication. According to this view, all cases in which the febrile disturbance is protracted beyond the fourth week at latest, possibly beyond the third, in absence of complication, are probably instances of intercurrent relapse. This is based on the theory that typhoid fever is a self-limited disease, lasting a definite time, beyond which it is never protracted, in absence of relapse. A consecutive relapse may occur at any time after defervescence of the primary fever, *i.e.*, after the evening temperature reaches normal, but it is usually not until five to ten days after that time that it commences; this has been so in five of my cases during the present year. As to the cause of relapse we are wholly in the dark, and we are therefore quite powerless in preventing them. Error in diet and too much movement, usually assigned as causes, may produce a sudden temporary rise of temperature, but true relapses nearly always occur quite apart from them. All the cases I have seen, except one, have arisen while the strictest diet and quiet were still observed. There evidently must be a re- or auto-

infection, from what source we know not, possibly from the intestinal canal or from the spleen. The duration of a relapse is usually shorter than that of a primary attack. In twenty cases reported by Shattuck, the average was nineteen days.\* Probably in many instances the attack aborts. The temperature attains its maximum usually in three or four days, more quickly than in the primary disease. A second and even a third or fourth relapse may occur. The prognosis is usually favorable.

III. *Phlebitis*.—Another phenomenon that occurs, sometimes as a complication, more frequently as a sequel to typhoid fever, is venous thrombosis, or phlebitis. The frequency with which it occurs varies in different seasons, and, apparently, in different localities, as many, having extensive experience, have never met with it. Chew, of Baltimore, has never had a case; he has seen four in consultation, which he describes in a recent article.† The works of Bristowe, Reynolds' System, Sir Thomas Watson, Trousseau, Loomis, and others, make no reference to it, and only a passing reference is made in that storehouse of clinical observation, *Fagge's Principles and Practice of Medicine*. I have met with phlebitis only during the past few years, and my colleagues say they saw no cases in the earlier years of their practice. It was described by Christism as occurring in Edinburgh from 1817 to 1820, and was noted in the London Fever Hospital a few years later. Both Murchison and Liebermeister describe several cases. It is therefore not a phenomenon of recent times only. Shattuck‡ met with it in nine out of 129 cases, and in my own experience it has been fully as frequent, while Macdonnell, of Montreal,§ met with only two in 100 cases seen during the past few years.

The condition, so far as noted, is reported as occurring nearly always in the left femoral vein; no reason is suggested for this peculiarity. Of six cases of which I have notes, four were in the left femoral vein, or its branches in the calf; one in both, being much more severe in the right—this case I saw with Dr. I. H. Cameron in the General Hospital; and one in which both arms were affected simultaneously during a relapse.

In the femoral the phenomenon usually begins

\*Murchison: *The Continued Fevers*.

†*Ibid.* ‡*Medical News*, 1890, ii p. 354.

§*Ibid.* §*Medical*

*News*, 1890, ii p. 225.



with sharp pain in the calf, or behind, sometimes above, the knee, with tenderness; this is followed by swelling, resembling phlegmasia alba dolens, with which the disease is probably identical. The vein, if superficial, can be felt as a hard, tender cord. Remittent febrile disturbance, sometimes with marked chills and rigors, is usually present, and may continue for several days, or even weeks.

This chart (Fig. 2) represents the temperature in a case under my care last winter. The chills were very severe; the fever disappeared a few days after the last chill, complete recovery following.

The chief danger is probably that a fragment of clot may become detached and cause fatal embolism. Troublesome swelling of the leg may persist for an indefinite time after convalescence, even for years.

In the case in which the arms were affected there was very little swelling, but they were extremely painful and tender along the inner side. The absence of swelling was due probably to the greater vascularity of the arms, the blood being returned by other and unobstructed channels. That the symptoms were not due to neuritis was evident from the absence of wasting, paræsthesia, and paralysis, other than that due to the pain.

A rare and instructive case of phlebitis occurred a short time ago in the practice of Dr. Uzziel Ogden, of this city. The patient, a young lady, had a fairly severe attack of enteric fever, followed by a relapse, which lasted till the end of the sixth week; then, instead of the expected convalescence, the temperature began to show evening rises again, without any cause being apparent. Notwithstanding this recurrence of febrile disturbance, the facies and other phenomena of typhoid fever disappeared, appetite began to return, and it became evident to so acute an observer as Dr. Ogden that, whatever the cause of the recurrence of fever, it was not a relapse. To improve her strength as much as possible, therefore, solid food was ordered, tentatively at first, but soon as freely as she could partake of it. She improved, although the temperature continued to rise, irregularly, in the afternoon, at times to  $102^{\circ}$  or  $103^{\circ}$ . After three weeks the cause of trouble showed itself in thrombosis, extending down the left femoral

vein. Before this there was slight tenderness to deep pressure in the pelvis, for which there was no satisfactory explanation. The cause of this was now quite evident, being due, doubtless, to inflammation in the pelvic veins. Complete recovery took place in due time. It is quite probable that not a few protracted cases, for which no cause is apparent, may be due to phlebitis in veins beyond the reach of exploration.

The period at which phlebitis occurs varies in some it occurs early during the fever, but usually not until convalescence has set in. Dr. H. T. Machell, of this city, related to me the cases of two sisters; in the first there was phlebitis of the left femoral as a sequel to the fever, while in the second it occurred early as a complication; in neither was the prostration marked.

The cause of phlebitis usually assigned is weakness of the heart, resulting in a languid circulation, with probably some change in the condition of the blood. That this is not the correct explanation is quite evident from the fact that it is not the very prostrate that are usually affected, and that it often develops before the fever has lasted long enough to cause prostration. Most authorities look upon the condition as a thrombosis with secondary phlebitis, but the early occurrence of pain, tenderness, and fever, seems to negative that theory. That it is a phlebitis, or an endo-phlebitis, with thrombosis resulting, there can be little doubt; and that the immediate cause is septic is rendered almost certain by the pyæmic character of the consequent febrile disturbance (*vide* Chart II.) What the nature of the sepsis is, and whether it is the same in all cases, requires further investigation to decide. The probabilities seem to be that the phlebitis occurring during the fever is directly due to bacteria of typhoid, which may, almost certainly, under varying circumstances, produce a variety of pathological conditions. Phlebitis occurring as a sequel is probably caused by the absorption of septic poisons from the intestines, where they are generated by the processes of ulceration and decomposition.

The frequent occurrence of pneumonia as a complication of typhoid fever seems explicable on no other theory than that the inflammation in the lung is directly due to the typhoid germs. The occasional occurrence of abscesses, single or multiple, in this disease, may be due to the

same cause, or more often to the septic matter absorbed from intestinal tract.

In a case under my care two years ago, towards the end of the illness several small superficial abscesses formed. Single abscesses are more common. Occasionally a joint suppurates, or multiple pyæmic abscesses may form in the lungs and elsewhere. Suppuration of the middle ear, in some cases double, occurred in four or five cases in the Toronto General Hospital, this autumn, and may possibly be explained in the same way, though this and parotitis are usually attributed to extension of inflammation from the pharynx along the eustachian tube in the former, and from the mouth along Steno's duct in the latter.

The occurrence of such various complications points to a great variety of poisons causing them; and probably, phlebitis may be dependent on poisons equally various.

Fortunately, cases complicated with phlebitis rarely prove fatal; the clot usually undergoes red softening apparently, and is absorbed; the wall of the vein becomes normal and its potency is restored. Possibly in those cases of persistent œdema the vein becomes permanently occluded by adhesive inflammation. Occasionally the clot becomes puriform and a fatal termination results from sepsis.

IV. *Post-Febrile Insanity*.—In common with other acute diseases, typhoid fever is occasionally followed by some form of mental disturbance which may show itself as active mania, melancholia, hallucinations, or loss of mental power. No sequel could be more distressing than this. Similar disturbances are met with occasionally by surgeons after operations,\* and in obstetric practice it occurs as puerperal insanity. Dr. H. C. Wood† has attributed the cause, in all, to exhaustion of the nerve centres, resulting from defective nutrition. A striking case came under my care last January, in the person of a young woman who had entered the General Hospital in November with typhoid fever. There was considerable delirium; the febrile disturbance was continued by abscess of the left parotid gland; the delirium gradually increased and became noisy, with the development of delusions. She came under my care on the first of January,

and by the middle of that month the parotid abscess had recovered, but the alienation persisted and became more delusional. She became so unmanageable that removal to the Asylum in February became necessary. Of her history there, Dr. H. E. Buchan, assistant medical superintendent, kindly furnished me the following account: "She entered February 10th, 1890; she was noisy, restless, excitable, and violent at times, claiming in turn to be Mary Queen of Scots, the Saviour, and others; in fact, hers was a very typical case of acute or active mania. There was marked physical debility." Under good nourishment and tonic remedies she gradually improved, was sent home in May on a month's probation, and discharged as "recovered" on June 6th last.

The one cheering feature of these cases is their hopeful prognosis. So far as I am at present aware, they all recover within a few months. Osler\* reports one of five cases still subject to hallucinations, but improving, after four months. In view of this fact it is very desirable that, when possible, all cases should be treated at home, to avoid the unpleasant after-feeling that attaches to incarceration in an asylum. The treatment would consist in careful, constant watching, the fullest possible nourishment, tonics, good hygienic surroundings, massage, and rest in bed. The asylum would be far preferable, however, to home treatment, if the fullest care could not be bestowed. With restored physical health, the mental condition will usually regain its equilibrium also.

Dr. R. S. Tyrrell, of this city, has kindly communicated to me the particulars of two cases of melancholia, with mental weakness bordering on imbecility, in young men. One had typhoid in August and the other in September; both had relapses of short duration, the mental weakness following. One is still debilitated, but the other has regained his physical strength but without improvement in his mental condition. Neither of them have had any delusions.

V. *Pylephlebitis*.—This is a rare and untoward result of typhoid fever. One case occurred in my hospital service last year, in a man who had passed through a moderately severe attack of fever. As he began to convalesce the temperature became irregular, the changes becoming

\*Shepherd, in *American Journal Med. Science*, 1888. Thomas, in *Ibid.*, 1888. †*University Medical Magazine*, 1889.

\**Johns Hopkins Hospital Reports*, Vol. II., No. 1.

more marked as time passed. Chills occurred from time to time, with sweating, and jaundice gradually developed, with some enlargement of the area of liver dullness. Later, the abdomen gradually enlarged and the signs of chronic purulent peritonitis developed, masking to a certain extent the signs of the hepatic fever. He died about four weeks after the recurrence of the febrile disturbance. The autopsy revealed chronic purulent peritonitis, with considerable plastic exudate and a diffuse pylephlebitis, the portal vein throughout all its ramifications being filled with puro-lymph. In the mesentery, near the ileo-cæcal junction, was found an abscess,  $1\frac{1}{2}$  inches in diameter, originating, doubtless, in a mesenteric gland, and causing both, first, the pylephlebitis, and, later, the peritonitis. The diagnosis in such cases can seldom be more than probable; and when made, it is seldom that anything can be done to give relief.

VI. *Constipation*.—Among the first symptoms of typhoid fever named by almost any medical student is diarrhœa; it is one of the first symptoms given in all our text-books; yet reference to late reports of this disease shows that it is present prominently in only a minority of cases. Thus, in Shattuck's 129 cases referred to it was absent in 51 per cent. (66 cases), and it was prominent in only 25 per cent. (32 cases). In Macdonnell's 100 cases it was present in only 27. In the Toronto General Hospital, during the last three months, the results, so far as I can ascertain, accord very closely with these. Of course, the frequency of diarrhœa varies somewhat in different seasons. Comparing these statements with Murchison's, the difference is very remarkable. He found diarrhœa present in 93 per cent. of his cases, and his contemporaries give even higher percentages. What is this change due to? It can scarcely be owing to a difference in treatment. It is extremely desirable that fuller statistics should be obtained on this point and its bearing on the prognosis and treatment. No doubt the fatality in the diarrhœa cases is much higher than in those with constipation.

Addison first, I think, and, later, Sir William Jenner, suggested that in all diarrhœa cases the colon is more or less extensively ulcerated. In all the autopsies, not many of course, that I have seen during the last three years, the colon has been found ulcerated in the diarrhœa cases, and

unaffected in the constipated ones. More extended observations are desirable on this point.

While constipation is generally of favorable prognostic significance, yet in some of these cases the signs of grave ptomaine poisoning are severe in the extreme. It would seem as if the excreta, being retained in the intestinal canal, the poisons are absorbed freely into the system. I had two such cases two years ago, a man and woman. In the woman, especially, prostration with hebetude was marked from a very early period; there was complete loss of consciousness for two or three days before death. At the autopsies, extensive ulcerations were found in the ileum in both, but no disease of the colon. Broadbent\* has recently referred to such a case, seen at the end of the second week, in which with the constipation there was, besides, extreme prostration, weak pulse, and cold, clammy extremities. The outlook was almost hopeless; the nervous system was obviously overwhelmed by some poison, doubtless the ptomaines absorbed from the intestinal tract, and the only hope was to have the bacteria and their products swept from the alimentary canal. With this object in view, three grains of calomel were given, the duration of the disease not having yet been sufficient to render such a course dangerous, except, perhaps, from hemorrhage. Next day, after the action of the calomel, there was much improvement; another dose was given and the case resolved itself into a mild case of enteric fever, and ended in recovery.

Such a report as this, from a man so capable and so worthy of confidence is not only interesting but extremely valuable to us, from a practical point of view, in giving us the necessary courage to act with judicious boldness when similar occasions arise.

VII. *Peripheral Neuritis*.—This complication is of much more frequent occurrence than I supposed before examining the literature. The symptoms of it were fully described by Trauseau, but attributed to disease of the spinal cord; he says, however, that no lesion of the cord could be found in any of the autopsies.† Shattuck reports three in his 129 cases of typhoid,‡ and Folsom, eight in 183 cases.§ I have not met with any cases myself. My colleague, Dr.

\* *British Medical Journal*, 1890, ii., 781.

† *Clinical Medicine*.

‡ *Ibid.* § *Ibid.*



J. E. Graham, has furnished me with the notes of a case under his care in the General Hospital in January, 1887. She had fever in September preceding; both legs became powerless during convalescence; she also complained of loss of memory; there were fairly well-marked evidences of peripheral neuritis, involving both lower extremities. The ultimate result is not known, as she has been lost sight of.

VIII. *Meningitis*, like pneumonia, may probably be caused directly by the typhoid germ. The symptoms so mask those of the fever that a diagnosis is often impossible. I am indebted to Dr. Graham for the notes of a case of which the following synopsis gives the salient points. A young bank clerk complained of indisposition, with great drowsiness, often falling asleep over his books; no headache; the drowsiness increased till soon he was constantly sleeping, with intervals of delirium. Temperature only slightly elevated and irregular. The coma deepened, with a few conscious intervals, until death. *Autopsy* showed some inflammatory effusion into the pia mater, with deep congestion of all the intra-cranial vessels. In the intestine were found the characteristic lesions of typhoid fever.

There remains the possibility that the intestinal lesions were the result of an indifferent irritant, if Harley is correct in his views that such can occur.\*

#### THE SHURLY-GIBBES TREATMENT OF PULMONARY TUBERCULOSIS, WITH A REPORT OF CASES.†

BY DR. PRICE BROWN, TORONTO

For more than two years, Dr. Heneage Gibbes, Professor of Pathology, Ann Arbor University, and Dr. E. L. Shurly, Professor of Laryngology, Detroit Medical College, have been experimenting upon guinea-pigs and monkeys, inspired by the hope of discovering a cure for consumption; and at last they believe that their efforts have been crowned with a reasonable measure of success.

In the first place, they demonstrated for their own satisfaction that tuberculosis could be transmitted by inoculation.

Healthy guinea-pigs and monkeys were inoculated from the sputum, or cultures of the sputum, of tuberculous patients under treatment at Harper's Hospital. The animals would sicken almost at once, and in the course of a few weeks or months would die. Microscopical examination invariably found pulmonary or general tuberculosis; and when the animals were allowed to die simply of the induced disease, tubercle bacilli would usually be present.

Prof. Gibbes had performed many similar experiments while in the service of the Local Government Board, of London, Eng., several years previously.

In reference to the length of time required to produce tuberculosis by inoculation, he records many cases of interest. On one occasion he inoculated three healthy monkeys at the same time with the sputum from a patient suffering from acute tuberculosis. Ten days later, one of the monkeys, being very ill, was put to death by chloroform. *Post mortem* examination proved it to be a case of severe general tuberculosis. The other two monkeys developed large abscesses at the seat of inoculation, of which complication the first monkey was entirely free.

Among other points of interest brought out by Prof. Gibbes is the protection against the disease which pregnancy affords; or rather, the temporary prolongation of life which it guarantees to inoculated animals. Two guinea-pigs, one a male, the other a pregnant female, were inoculated with the same human sputum. The male died in twenty days of general tuberculosis. The female had four young ones, one month after inoculation, and died five months and twenty-eight days after inoculation of general tuberculosis.

A similar experiment was made on two females. The non-pregnant animal died of the disease in thirty-five days; while the pregnant one, having had four young ones, died of the disease, but not until four months after inoculation.

A point bearing on heredity of tuberculosis was also of great interest. He took these two litters of guinea-pigs, each born of a tuberculous mother; and keeping them by themselves, bred them in and in (brother and sister) for several generations, one for five, the other for

\**Reynolds' System of Medicine*. Article: "Enteric or Typhoid Fever."

†Read before the Toronto Medical Society, February 5th, 1891 (Abridged).

seven. Out of every litter he killed a half-grown animal, and examined all the organs. He found them in every case free from tuberculosis and normal. Gibbes and Shurly also found that placing healthy guinea-pigs with inoculated ones would not affect the former with the disease. In fact, that nothing short of inoculation would produce tuberculosis in the guinea-pigs they were experimenting upon.

They next directed their attention toward the arrest of the disease in the inoculated animals. With this end in view, a great number of experiments were made with a variety of agents. Of the many drugs used by inhalation, chlorine gas produced the best effects. They found that tubercular sputum, thoroughly saturated with chlorine gas, or mixed with fresh chlorine water, soon became innocuous; and animals inoculated with the prepared sputum would not become tuberculous. For instance, Dr. Shurly reported recently to the Detroit Medical and Library Association the history of three cases, all inoculated eight months previously with the sputum from the same tuberculous patient. Two of them, a monkey and a guinea-pig, both died of tuberculosis; but the remaining guinea-pig, the inoculation material of which had been chlorinated, was still alive and well. Many other experiments were attended with the like results.

Owing, however, to the irrespirable character of chlorine gas, it was some time before they discovered by what means they could avail themselves of it as an inhalant. Then they found that air saturated by a spray of chloride of sodium could enable the animals to inhale large quantities of chlorine with impunity.

Not confining themselves to inhalants, these gentlemen made, and had made under their directions, a long series of experiments by hypodermic injections. The solutions were chiefly of an inorganic character, many of them with metallic bases. The only ones, however, which have proved sufficiently satisfactory to continue the hypodermic use of are solutions of iodine and chloride of gold and sodium, both of course chemically pure.

The results of injections of these upon animals were very remarkable. Among them were the following:

1. Guinea-pigs or monkeys which have ac-

quired phthisis without inoculation, or animals inoculated with the sputum of tuberculosis, can have the disease arrested and a cure accomplished by hypodermic injections of either solution of iodine, or solution of chloride of gold and sodium.

2. Guinea-pigs or monkeys well iodinated will not take tuberculosis by inoculation.

3. The same animals, saturated in like manner with solutions of chloride of gold and sodium will not take tuberculosis by inoculation.

4. Guinea-pigs and monkeys cannot be inoculated with tuberculosis from the sputa of patients suffering from tuberculosis when said patients are well under the systemic influence either of the iodine or gold solutions.

After a prolonged series of experiments upon animals, Dr. Shurly put the new treatment into practice upon the indoor patients at Harper's Hospital suffering from pulmonary consumption. and in an article in the *Medical News* of Dec. 27th he gives a short account of his method of treatment, and the measure of success which has so far attended his efforts. He reports, in all, having thoroughly treated twenty-seven cases of phthisis pulmonalis and general tuberculosis, since the beginning of September. Of course, a number of these were advanced cases, in which a good result could not be expected. Six of the number had died. Four had improved sufficiently to be called cured. The rest were still under treatment; though two had so far improved that it was expected they would be discharged from the hospital in another week.

About the time of the issue of this number of the *Medical News*, I received a supply of the two solutions from Dr. Clark, Professor of Chemistry at the Detroit Medical College; and an opportunity occurring, I commenced to treat my first case by the Shurly plan. The result promised so favorably that I visited Detroit to familiarize myself with detail.

In the pens in one of the basement rooms, there were about twenty-five guinea-pigs. Many of these were suffering from induced tuberculosis, and were receiving daily hypodermic injections of either the iodine or auric solutions. They were reported as doing well. Others having been subjected to treatment for a length of time, with abatement of all the symptom, were pronounced cured.

On asking how a cure could be recognized, I was told there would be cessation of tubercular fever, absence of rales, restoration of appetite, and increase in flesh.

One animal, after inoculation with sputum, had received no injections, but was placed several times a day in the chlorine inhalation cage. It was believed in his case a cure would be accomplished by inhalations of chlorine alone.

In another room were six monkeys. All of them had had tuberculosis. One of them was quite well, having been cured by hypodermic injections. Four were under hypodermic treatment and were progressing towards recovery. The sixth was a case of phthisis purposely induced by exposure to cold, and was being treated exclusively by inhalations of chlorine. It was reported as improving and probably out of danger.

From a private letter received from Harper's Hospital I might add the following facts:

Sept. 29th, 1890. Guinea-pig, six weeks old, inoculated with sputum containing bacilli. Seventy-two hours later commenced treatment by daily injections of sol. iodine. This was continued for ten days; then every other day for ten more days; and then discontinued altogether. Result: recovery. The animal is living and well to-day.

Oct. 31st, 1890. A female monkey was inoculated with sputum containing bacilli from a consumptive patient. Seventy-two hours were allowed for the disease to become developed. Then hypodermic injections of iodine were commenced, as in the guinea-pig; continued daily for ten days; then on alternate days for ten more; and then discontinued. The cough with which the monkey was affected during the early days of treatment entirely disappeared, and she has been perfectly well ever since.

Oct. 31st, 1890, the date on which the monkey was inoculated, and with sputum from the same patient a guinea-pig was also inoculated. It was not treated at all, however, but allowed to die. The viscera were sent to Prof Gibbs at Ann Arbor for examination. He found the lungs very extensively diseased.

In the male and female wards of the hospital I saw about twenty cases, besides a number of

better class people in private wards. The sexes were about equally divided. Most of them were receiving daily injections of about m. x of solution of iodine, the amount of iodine in the solution varying from the  $\frac{1}{12}$  to  $\frac{1}{8}$  of a gr. Some were receiving, instead of iodine, hypodermic injections of solution of chloride of gold and sodium, dose, gr.  $\frac{1}{30}$  to gr.  $\frac{1}{15}$ . In the hospital I did not see injections given, being informed that the usual time of administration was about 8 p.m.

In private practice, however, I saw two injections of the gold solution administered. It was in each case done with the patient standing upright, the point chosen being the upper gluteal region. The instrument used was an ordinary hypodermic syringe, cleansed by hot water, and rendered aseptic by the use of alcohol. The reasons for selecting this region were, the large surface for operation, the lack of acute sensitiveness in the part itself, and the comparative immunity of tendency to formation of local abscess.

To return to the hospital cases. In addition to hypodermic injections, many of the patients were given daily inhalations of chlorine gas. These were administered in a small room especially prepared for the purpose.

The arrangements for this are simple yet ingenious. The temperature of the room is kept about 75° Fah. A spray bottle is filled with a 10 per cent. solution of chloride of sodium. This is driven into the finest spray by compressed air under steam pressure, completely saturating the air of the room. Then an ounce or two of chloride of lime is placed in an open vessel and several drams of hydrochloric acid added. The evolved fumes of chlorine are breathed almost with impunity by the patient.

In cases attended by caseation, with profuse expectoration, the chlorine was administered several times daily.

In reference to the hypodermic injections, Dr. Shurly recommends as a rule to give the iodine for about a week, unless iodism or too rapid a diminution of expectoration supervenes. In either case, the auric solution should take its place.

When there is much cough and little expectoration, the chloride of gold and sodium is



the best, though it should not be given for too long a period without interruption. The two solutions should be given, in many cases, in alternate doses. After ten days or two weeks treatment, the injections may be given on alternate days or even at longer intervals, and latterly once or twice a week. the whole treatment lasting one, two, or three months, according to the requirements of the case.

In cases attended by profuse expectoration, and in all laryngeal cases, chlorine inhalations should supplement the hypodermic treatment.

The treatment is unattended by chills. Sometimes there is considerable nocturnal sweating. At first the hypodermic injections produce little reaction; during the second week reaction may increase; though reaction, arising from the injection itself, is of short duration.

The iodine produces more local soreness than the gold. When first used upon animals the iodine frequently gave rise to abscesses at the site of injection. This arose from chemical impurity of the solution, for since this defect was corrected abscesses have ceased to occur.

On making a physical examination of the patients, and on looking over their charts, which were drawn out very fully, I was particularly struck with two things:

1st. With the difference in the chest signs from what I had observed in patients suffering from phthisis in the same wards two years previously. At that time there was a large predominance of crepitant, mucus, and gurgling rales, in the upper chest, so distinctive of the disease. This time there was much greater limitation; and in some instances complete absence of moist sounds, with a correspondingly less expectoration. In the place of the former we had broncho-vesicular breathing, dry crepitation, and more distant voice sounds.

2nd. The high temperatures still attained in cases marked by cavities, or extensive caseation, running up during the second and third weeks of treatment to  $102^{\circ}$ ,  $103^{\circ}$  or  $104^{\circ}$ . This was not so favorable an indication. True, the cough and expectoration had diminished, and the patients themselves seemed bright and hopeful, but the disease itself was still present, and the prognosis in these cases could not be very favorable.

The charts of some, however, had a much

better showing, indicating after two or three weeks treatment a gradual and almost steady decline in temperature, with slowing of pulse and respiration.

The largest dose of the gold preparation was gr.  $\frac{1}{3}$ . When toxic symptoms were produced they consisted of malaise, vertigo, nausea, and pains in the thorax, pelvis, and limbs.

Sometimes the urine became scanty and high-colored. Usually, however, there was no change.

As the cure advances there are indications of connective tissue and fibroid changes within the caseous masses, producing contraction and cicatrization. Of course, this is only in a measure conjectural, as it is impossible to make *post mortems* on cured cases; but there are some symptoms in certain cases under process of cure which can only be accounted for in this way. Judging from these, Dr. Shurly was of the opinion that the treatment, if pushed too rapidly, might in some cases produce pain and tightness of the chest, from too rapid cicatrization. He instanced one patient in particular. The mucus and gurgling rales had almost disappeared. His respiration had become dry, tubular, and rasping, and when he coughed there was racking pain with little sputa. Breathing was short; temperature continued high; but his appetite and general condition had improved.

In some cases of laryngeal tuberculosis the results were very good. I saw a girl in the hospital in whom, although the voice had not fully returned, the difficulty and pain of swallowing had entirely ceased. Another case, that of a young gentleman, a private patient, whom I saw at Dr. Shurly's office, was very remarkable. When he commenced treatment a month previously he had complete aphonia, with very marked dysphagia and odynphagia. The former still remained, but the latter two had entirely disappeared. On examining his throat with the laryngoscope, I could distinctly see that the laryngeal ulcerations were cicatrizing.

To give the chlorine inhalations at his office, Dr. Shurly substituted for the chlorine evolved from chloride of lime, as used at Harper's Hospital, a spray, composed of equal parts aq. chlor., U.S.P., and 10 per cent. sol. of chlor. sod. These were atomized by compressed air,

and inhaled by the patient through a mouth-piece prepared for the purpose.

In regard to the effect which the treatment has upon the bacilli: In some cases the bacilli disappear entirely from the sputa while the patients are under treatment; in others they change their shape, the right lines of the rods becoming rounded near their ends: while in others they become innocuous, accompanied by little if any change in form.

In conclusion, I will briefly quote from my note book the history of two cases at present under treatment.

Dec. 29, 1890. Case 1. Mr. N., æt. 22, a school teacher; parents are farmers: no tuberculosis among near relatives; had locomotor ataxia at age of 14 years; recovered within a year; has been poorly for  $2\frac{1}{2}$  years. At first had severe stitches in left side; these extended to right, followed by pains generally through the chest; for more than a year he had no cough; then he took more cold with aggravated pains, and has had cough and expectoration ever since: has had several slight attacks of hemorrhage.

Examination: pulse 100: respiration 25: temperature  $99\frac{1}{2}$ : percussion negative: prolonged expiratory murmur marked during deep breathing: posteriorly on right side; anteriorly on left side; roughened respiratory sounds in both axillæ. Mucous rales over left supra-mammary region, and also over right intra-scapular region. Coughs a good deal, particularly in the morning, expectorating dark heavy matter.

Dr. Acheson kindly examined the sputum and found it loaded with tubercle bacilli. I gave Mr. N. the usual inhalations which I had formerly administered, adding the chlorine spray according to Dr. Shurly's formula; and on two successive mornings, hypodermic injections of m. x of solution of iodine. These were given, as directed, in the gluteal region.

Temporary soreness was produced, but in neither case was there increased pyrexia as a result of the injection.

On the third morning, owing to the soreness produced by the iodine, I substituted m. vi. of the chloride of gold and sodium sal.: the tenderness from it was much less; consequently on the fourth, and for nine successive mornings, I gave him m. x of the auric solution. After

this, as you will see by the chart, the intervals were usually longer.

For the first six days, it will be noticed, there was a steady but very gradual decline in temperature, dropping from a steady  $99\frac{2}{3}$  to  $97\frac{1}{2}$ . Then for another ten days the morning temperature before treatment was always away down below normal, followed immediately after treatment by a rise of one, two, three, or even four, degrees; and I always noticed in his case, the lower the temperature before treatment, the greater the rise after. The second temperature was always taken in my office upwards of half an hour subsequent to the first. The maximum would be soon reached, and in an hour or two the pyrexia would be over. Several times I noticed that it would commence to fall again, even before he would leave the office. The last week, from the nineteenth to the twenty-seventh day, the temperature was more even, only rising above the normal on one half the occasions on which the injections were given.

On the twenty-seventh day of treatment he went home: his chest pains were very much less, likewise the cough and expectoration; his pulse was about 90; respiration 20; temperature, at 8 p.m.,  $97\frac{1}{2}$ ; he felt stronger and more hopeful than he had done since commencing treatment, while the respiratory murmur was more natural in the axillæ and over the chest generally; mucous rales were still present in left supra-mammary and right post intra-scapular regions.

Jan. 12th, 1891. Case 2. Miss M., æt. 23. Mother died of phthisis: has had naso-pharyngeal catarrh for three years; is very subject to chest colds; thinks she must have had slight fever since August, as she has been subject to chilliness, together with dry, burning throat; her home is in the country, in a high elevated region, without malarial surroundings; she has had cough now for more than a month; in daytime it is loud and harsh, in the morning accompanied by expectoration of heavy yellow matter; has pain in upper part of chest, chiefly over right apex; latterly has been troubled with odynphagia.

Her case was referred to me by her physician on account of continued high temperature, pointing to lung trouble.

Examination: slight dullness over right apex,

with increased vocal resonance and prolonged expiratory murmur; no mucous rales; temperature 100; pulse 94; respiration 24.

Diagnosis: incipient tuberculosis. I at once gave her inhalations of chlorine, followed by hot air, and air medicated by menthol and eucalyptol, as in the former case. This was repeated daily, and on the second and third days with the addition of hypodermic injections of m. x of iodine solution.

After the first two injections I substituted the chloride of gold and sodium for the three following days, then on alternate days until the temperature became altogether sub-normal.

The effect of treatment upon the temperature in this case is worthy of notice. On referring to the chart it will be seen that the first day in which no injection was administered the inhalation treatment had no immediate effect upon temperature, which remained throughout at 100°. The second day, at 10 a.m., it was still 100°, but dropped immediately after the treatment to 99°, the effect no doubt of the hypodermic injection. By the next morning the temperature had risen a little, but again dropped with the injection. The like result attended the use of the chloride of gold and sodium; and throughout, whenever the temperature was above normal before treatment, the administration of the hypodermic injection invariably had the effect of reducing it.

As marked upon the chart, during the last seven days of treatment, the temperature was never above normal, and usually below 98°; the pulse was reduced to 80; respiration 19. She had a good appetite and felt well. The odynphagia had also passed away.

### KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT.

Communicated from Berlin to the University of Toronto.

My last letter was intended to give you a picture of the revulsion in Berlin against the Koch cure, both among the members of the medical profession and the public. I indicated, in a recent letter to the Vice-Chancellor, that in spite of the numerous communications with favorable results from distinguished clinicians all over the country, the attitude in Berlin still

remains decidedly "anti-Koch." There are even whispers of a proposal in parliament to forbid the use of the lymph, but it is obvious that such a proposal can only be intended for strategic purposes, for there are too many enthusiastic encomiums from capable men to allow it to be entertained for a moment. In my next letter I may endeavor to summarise these, but I shall devote the present one to a topic of greater scientific than practical interest—the nature of the poisonous substance produced by the tubercle-bacilli. This forms the subject of a communication to the last number of the *Deutsche Medicinische Wochenschrift*, by Dr. Theodore Weyl, a physiological chemist who has distinguished himself in the new field of work which has recently been opened out on the border-land of organic chemistry and bacteriology.

The paper is of special interest to me, as it discloses some further points with regard to the nature and mode of preparation of the mysterious lymph.

Prof. Koch gave Dr. Weyl, a year ago, for further examination, a product which he had obtained in the following way from about 500 tubercle cultures on glycerine-agar. The cultures were scraped off the agar and treated with warm dilute sodic hydrate. A turbid yellowish mixture resulted, in which small white flakes were suspended, but this stiffened when slowly cooled into a turbid jelly, consisting of two layers, the lower opaque one containing the flakes. These layers were carefully separated, when it was found that the white layer evidently was formed of envelopes of the tubercle-bacilli, for it reacted to stains in exactly the same manner as the outer case of the bacillus, taking up carbohc fuchsin slowly, but not parting with it again to 3 per cent sulphuric acid.

The clearer jelly, on the other hand, evidently contained the protoplasm of the tubercle-bacilli, and it was possible to precipitate from it, by dilute acetic acid, a substance not soluble in excess of the acid, which could be purified by alcohol and ether, and obtained in the form of a white powder. The reactions appear to indicate a mucin, but it contains less nitrogen, and a carbo-hydrate is not split off when it is heated with 3 per cent sulphuric acid. As it contains sulphur, it is obviously not related to the myko-



protein or anthrax-protein of Nencki and Schaffer. Two solutions of this substance were prepared in very dilute sodic hydrate, one containing about 1.5 mg. per cc., the other about 2. Half a cubic centimeter of the first was subcutaneously injected into two rabbits and two guinea-pigs; the rabbits were unaffected, but the guinea-pigs showed a small dry scab over the points of injection, which fell off in two or three days. The same result was obtained with mice, with injections of 0.1-0.5 cc., the size of the scab varying with the dose. These results were confirmed by using the second solution, whence it appeared that doses of .15-2 mg. of this substance are able to produce local necrosis. Dr. Weyl proposes, therefore, to describe it as a toxomucin.

No experiments with tuberculous animals are described, but a comparison of this paper with Koch's last communication suggests a new departure in certain experiments with which I am engaged at present.

I have now to hurry off to the Cattle Market to see a new disinfector at work, which has been put in with the object of rendering harmless tuberculous meat. It is constructed on a new principle; a vacuum being first produced in the internal chamber, before the currents of steam are allowed access to it. It is said that in this way the largest pieces of meat can be safely disinfected. I shall give you an account of this piece of apparatus, which is equally available for disinfection of beds, garments, etc., in my next letter.

## Selections.

**FACIAL ERYSIPELAS.**—Although it is well known that erysipelas of the face often arises from a point of infection inside of the nose, it very often happens, as Lehnbecher has pointed out, that in the treatment of the disease little or no attention is given to the nasal cavity. It is sometimes wonderful what a mass of thick, bloody, bad-smelling pus can be washed out of the nostril. A nasal douche of three per cent. boracic acid solution should be given every three hours, until the cavity appears to be perfectly sterilized, after which, to prevent drying of the mucous membrane, tampons with boracic acid ointment should be inserted. With these

precautions the author has found that the duration and severity of the disease are much diminished. He applies nothing to the skin except cotton-batting or an oil compress.—*The College and Clinical Record.*

**THE ALLEGED IMMUNITY OF DAGUERREOTYPISTS TO TUBERCULOSIS.**—A correspondent of *Anthony's Photographic Bulletin*, who believes that the mortality by phthisis was exceptionally light among daguerreotypists in years gone by, proposes to institute an inquiry among the survivors of the now little-used method, daguerreotypy, in order to test the truth of his belief. His personal experience has led him to the opinion that the vapors developed by the use of iodine, bromine, and mercury in the dark room, forming the iodide and bromide of mercury in a nascent condition, together with the uncombined vapors of those chemicals, sufficed to prevent and cure tuberculosis among his fellow-craftsmen, and that those same agents may be turned to good account now for the destruction of the bacilli of Koch. Old daguerreotypers are invited to communicate their facts to the above-named journal.—*N. Y. Med. Jour.*

**LONGEVITY.**—In connection with the pseudo-centenarianism of the Elgin "Methuselah," whose death was recently recorded (*Pall Mall Gazette*, Aug. 26th), the following story will be read with interest: "It is well known that people seldom die in Ochiltree. When any one there gets tired of life, he generally finds it necessary to remove to another parish. Many of the inhabitants, however, do not seem ever to tire of life, and so remain on their native soil till their ages are past all reckoning. Colonel Andrew M'Dowall, when he returned from India, came one day upon an old man sitting weeping on a big stone by the roadside. When he came up, the old man rose and took off his bonnet and wiped his eyes, and said, 'Ye're welcome hame again, laird.' 'Thank you,' said the Colonel, adding, after a pause, 'I should scarcely know your face; aren't you Nathan M'Culloch?' 'Ye're richt, 'deed!' said Nathan. 'It's just me, laird.' 'You must be a good age now, Nathan,' said the Colonel. 'I'm no verra aul' yet, laird,' was the reply; 'I'm just turn't a hunner,' 'A hundred!' said the Colonel,

musings. 'Well, you must be all that. But the idea of a man of a hundred sitting blubbing in that way! What could you get to cry about?' 'It was my faither licket me, sir,' said Nathan, weeping again, 'an' he put me oot, so he did!' 'Your father!' said the Colonel, astonished. 'Is your father alive yet?' 'Leevin'?' Ay,' replied Nathan, 'I ken that the day tae my sorrow.' 'Where is he?' said the Colonel. 'What an age he must be! I should like to see him.' 'Oh, he's up in the barn there,' said Nathan, 'an' no in a horrid gude humor the noo aither!' They went up to the farm together, and found the father busy threshing the barley with the big flail, and going on at a fearful rate. Seeing Nathan and the laird coming in, he stopped and saluted the Colonel, who, after inquiring how he was, asked him what he had struck Nathan for. 'The young rascal,' said the father, 'there's nae dooin' wi' him; he's never oot o' mischief! I had tae lick him this mornin' for cloddin' stanes at his grandfather!'"—*Edin. Med. Jour.*

PHENACETIN IN PERTUSSIS is unquestionably of great value. In doses of from one to five grains every two to five hours, according to age or severity, I have been well satisfied with the result in a number of cases. Upon this point Dr. Geo. C. Irwin of Sabetha, Kas., says (in the *Archiv. of Pediatrics*, for Oct., 1890): "About one year since I reported a case in the *Archives*, giving my experience with phenacetin in pertussis. Since that time I have passed through a severe epidemic of the disease, and have administered it to all ages, with relief in every case, and in some beyond my expectations, giving relief where the paroxysms threatened suffocation before its administration. In no case has its use been followed by any unpleasant results. As before, it was administered in glycerine, which is its best solvent, and I claim that its use will relieve in all cases, and cut short the duration of the disease. As far as I know, I was the first to claim its merits in this disease."—*Medical Mirror.*

THE Harvard Medical Society of New York City, composed of graduates of the Harvard Medical School residing in New York, has recently been organized.

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, MARCH 16, 1891

### ELECTRICITY IN UTERINE TUMORS.

Dr. Apostoli's most enthusiastic supporter in his views respecting the treatment of uterine tumors by electricity is probably Dr. Thomas Keith, formerly of Edinburgh, now of London. It is somewhat remarkable that a form of treatment which has proved so satisfactory to very able and careful observers like Apostoli and Keith should have found so little favor with the profession in all parts of the world. About two years ago, or a little more, Dr. Keith gave a report in detail of all the cases of uterine fibrous tumors which he and his son had treated up to that time by Apostoli's method. In *The British Medical Journal* of Feb. 14th, Dr. Keith presents a paper which shows that he has not lost confidence in the electrical methods. He expresses the opinion that the indiscriminate removal of the ovaries for fibroids, pelvic pain, or dysmenorrhoea, that is recommended to patients, and the brutal haste with which operation follows, is now a professional scandal. He expresses considerable disappointment that treatment by electricity has been useless in the hands of so many, but he inclines to the opinion that the fault always lies in the operator. He considers that delicacy of manipulation, perseverance, and a knowledge of electricity, are essentials to success.

He reports a number of cases which, he claims, were cured in this way. He is in some doubt as to the cause of the absorption or diminution of the bulk of a uterine fibroid. He thinks it is not by electrolysis, but rather by some form of electrical osmosis.

He has found the treatment especially successful in small bleeding fibroids, but great care

should be taken in diagnosis. He relates a case where diseased tubes were mistaken for fibroids and treated by electricity, which did more harm than good. He strongly opposes the use of the knife for the removal of a tumor which can be treated by a simple, safe, and practically painless process. At the same time he admits that hysterectomy is the only suitable treatment for certain cases. He thinks that electricity is useless in fibro-cystic tumors and in cases of excessive uterine hemorrhæa.

He sums up by stating that Dr. Apostoli's "treatment almost always relieves pain. It almost always brings about diminution of the tumor—sometimes rapidly. It almost always stops hemorrhage—sometimes rapidly." By "almost always" he means in nineteen cases out of twenty.

#### FUNERAL REFORM.

The subject of funeral reform has been much discussed in England during the last few years. It has been noticed that the exposure produces very serious and sometimes fatal results to the mourners in attendance. This is especially the case with those advanced in years. The extremes of our climate make such danger more pronounced in Canada than in England.

Efforts should be made, especially by physicians and clergymen, to guard against these evils. The aged and infirm should be prevented as far as possible from exposing themselves to such unnecessary perils. In all cases those attending funerals, whether young or old, whether vigorous or weak, should be warmly clad. This is especially true with reference to the head, neck, and chest, on account of the custom of wholly or partially uncovering the head during the funeral service.

In England a special woollen scarf is recommended sufficiently broad and long to cover the head (including forehead), neck, and chest. A garment known as the "guardian cloak" is also recommended, and sometimes furnished by undertakers for the use of the mourners at each funeral. This, however, is objectionable on account of the dangers from infection. People at funerals had better wear their own clothing, and any device employed to guard against chills is not likely to be wasted during our cold winters. In conclusion, we would like

to urge that those who are not in good health should always be prevented from attending funerals. Our respect for the dead should not include any perils for the living.

#### MEDICAL EDUCATION.

The writer of an article on medical education which recently appeared in *The Week* is evidently not well informed on the subject whereof he speaks when he refers to the University of Toronto. We will simply refer to one error, because it is unjust to one of our best schools. The article conveys the impression that *one medical college* was chosen to be the ally and beneficiary of the Provincial University. In reply, we beg to state that the University did not choose one college in Toronto; but endeavored, through the Senate, to obtain the active co-operation of both colleges in her efforts to organize a strong medical faculty. Trinity positively refused to come in, although her Dean intimated that a guarantee of \$2000 a year to each of her principal lecturers might alter her decision. The Government unfortunately refused the guarantee, and the promoters of the restored faculty were forced to endure a disappointment from which they have scarcely yet recovered.

#### NOTES.

PARALYSIS FROM HYPODERMIC INJECTION OF ETHER.—We learn from *The New York Medical Record* that a hypodermic injection of ether may produce a local destruction of the nerve fibre, just as if a section of it, with a knife, had been made. A Vermont physician had a patient in whom an injection of thirty minims of Squibb's ether into the forearm for collapse was followed by loss of motion in the hand and forearm. It is stated that a good many such accidents have been reported, and physicians are advised never to inject ether into the arms or legs, but always the trunk.

MEDICAL EDUCATION FOR WOMEN.—The fitness of women for the profession of medicine has recently been discussed by writers in various parts of the United States. There seems to be a general consensus of opinion that all facilities for the study of medicine should be available for those of the gentler sex. It is



thought by some that the ordinary female colleges are not in all respects sufficient. Why we can scarcely tell. Johns Hopkins, of Baltimore, is going to try the experiment of co-education. Dr. Osler says "the means of study are there; if the women want them, let them come and take them." We have tried co-education in Canada, and from a teacher's point of view have not found it very satisfactory. We think that our medical colleges for women are doing admirable work, and are inclined to hope that they will ever continue to be successful.

## Meeting of Medical Societies.

### TORONTO MEDICAL SOCIETY.

January 29th, 1891.

The President, Dr. Spencer, in the chair.

Dr. Pepler showed a patient who had suffered from

#### SPINA BIFIDA.

The child is now fifteen months old, and was shown to the society last June by Dr. Bain, when the tumor was large. The feeling expressed by members of the society present on that occasion was against interference. Shortly after the exhibition of the patient to the society J. Morton's fluid was injected on two separate occasions, a week's interval between the operations. The result has been to effect a cure. The tumor has shrivelled up and has disappeared.

Dr. Machell presented a specimen of

#### IMPERFORATE ŒSOPHAGUS.

When born, nothing of an unusual nature was noticed about the child, but it was soon found that it was unable to nurse. When it attempted to swallow fluids it would first try to vomit, and then it almost suffocated, turning very blue, and finally forcing out some mucus from the mouth. The attack would then pass off; it was thought that some obstruction was present. The child was unable to take any nourishment, and died on the seventh day. *Post mortem* it was found that the Œsophagus ended in a *cul de sac*; there was a portion of the Œsophagus patent extending up from the stomach, but this did not connect with the tube above. There was, however, a communication between the lower Œsophagus and the trachea, so that on passing the lobe

downwards through the glottis it could be made to enter the Œsophagus below and to pass on into the stomach.

Dr. Machell also showed a specimen of

#### OVARIAN CYST.

This he had removed from a woman who had noticed abdominal enlargement for twenty-one months prior to operation. The operation presented no difficulties; the cyst was very large, and was monolocular. Convalescence was slow, but the woman quite recovered after a year, and returned to her work.

Dr. Machell showed a third specimen of

#### VESICAL CALCULUS,

removed from the bladder of a boy eleven years of age, by lateral lithotomy. For eight years the boy had suffered from pain and recurrent attacks of hæmaturia.

Dr. Primrose referred to the fact that lateral lithotomy was more frequently chosen for boys than the suprapubic method. He had seen a considerable number of the latter, and he referred to the ease of reaching the bladder over the pubes, facilitated as it is by the fact that in children the bladder is more an abdominal organ than a pelvic, and the prevesical fold of peritoneum is high enough to afford ample space for a considerable incision below it. The difficulty of reaching the bladder by the lateral method in boys, and the danger of causing a transverse tear of the urethra, was referred to.

Dr. Machell recorded his preference for the lateral operation, and quoted Sir Henry Thompson, who states that boys always do well after lateral lithotomy. He referred to the danger of rupturing the rectum by distending it before incision above the pubes, and narrated a fatal case of rupture of the rectum.

Dr. Shaw showed a specimen of

#### CONGENITAL HEART DEFORMITY.

The child was born at full time: it was very blue, and only weighed four and a half pounds. On the fourth day it was seized with an attack of dyspnoea, and died. *Post mortem* all the organs were found normal, save the heart; the thymus was larger than usual. The heart is seen to be small: the aorta arises from the right ventricle along with the pulmonary artery. The ductus arteriosus is patent, as also is the foramen ovale. The interventricular septum is incom-

plete. The condition belongs to a class of heart deformity, described as defective metamorphosis of the arterial arches.

Dr. A. A. MacDonald showed a specimen of

#### CYSTIC SARCOMA OF THE OVARIES.

The two ovaries had been removed by Dr. Temple from a woman twenty-five years of age. The abdomen, at the time of the operation, was found distended with ascitic fluid; a number of cysts were tapped. The left ovary presented two or three of these cysts. In connection with the right ovary, close to the horn of the uterus was a thin-walled cyst containing pus. The disease is apt to recur in this patient, but the operation was justifiable if only for the removal of the pus-cyst, which might have ruptured and caused death at any time.

February 5th.

The Vice-President, Dr. A. A. MacDonald, in the chair.

Dr. Doolittle narrated the details of a case of

#### ELEPHANTIASIS ARABUM.

A photograph of the patient was shown. The woman had never lived in any tropical climate. Eight or nine years ago the thighs and the lower extremities began to swell. Dr. Doolittle first saw the patient four years ago; he was called to see her because of the development of large ulcers on the calfs of the legs, these healed under treatment. The ulcers broke out again a short time ago, and became very foul; erysipelas set in and gangrene followed in the legs, when she died. At the time of her death she weighed 325 pounds. The patient's father and mother were stout, but not remarkably so.

Dr. Wilson, of Richmond Hill, narrated the history of a similar case occurring in his practice; the patient died a year ago, the cause of death being an attack of erysipelas. The swelling extended throughout the lower extremities, but stopped abruptly at the ankles. She had never lived in a tropical climate.

Dr. Wilson then communicated notes of a case of

#### PELVIC CELLULITIS, FOLLOWED BY OBSCURE SYMPTOMS.

The patient, a young girl, came to him complaining of some pelvic trouble, apparently an old cellulitis. There was tenderness about the uterus. She was menstruating when he first saw

her—when she ceased menstruating she suddenly became unconscious, and she developed a notable weakness in her left side. Dr. Wilson thought her somewhat hysterical. The left eye was turned inwards, and the right eye remained stationary; the pupils were dilated and reacted slightly to light; she could not swallow water. Pulse was 140, temperature 101.2. She was in this condition three days, when the eyes began to straighten; the eyes remained dilated, and temperature elevated. The patient is still under supervision.

Dr. Cuthbertson, Dr. MacDonald, Dr. Atherton, and Dr. Palmer, discussed the case. The general consensus of opinion was that the symptoms were those of hysteria. Dr. Wilson concurred in these views.

Dr. A. A. MacDonald narrated the history of a case of

#### PELVIC CELLULITIS.

The attack developed shortly after confinement. There was a swelling at first detected in the region of the right broad ligament and right side of the uterus; there was elevation of temperature, and induration occurred. The inflammatory process was not checked by the ordinary methods of treatment, but spread to the other side of the uterus. At last resolution set in, and the hardness and swelling diminished on the right side, but continued on the left. After two months, hardness and swelling occurred in the front of the bladder, behind and above the pubes. After a time fluctuation was detected in this region; an incision was made and pus drawn off, from an opening above the pubes. The patient has since done well. The case is remarkable because of the slow progress of the disease.

Dr. Price Brown then read his paper on the Shurly-Gibbes' method of treating tuberculosis. This paper appears at page 132 of THE CANADIAN PRACTITIONER.

In the discussion which followed, Dr. McPhedran stated that the duality of phthisis is, in his opinion, not proven. He noticed that Messrs. Shurly and Gibbes always took care to use sputum containing bacilli for their inoculation experiments. As to their views concerning the pathology, their work in that direction has been one of destruction without substituting any theory to take the place of that of the bacillary origin of phthisis. It is too early to speak of cures by

either this form of treatment or that of Koch. We cannot accept the statement that normal physical signs can be restored in the lungs; the best that can happen is to replace the lung tissue with fibrous tissue, and the normal physical signs will therefore not be restored. The rise of temperature in an hour or less may be attributable to mental effect.

Dr. Gordon asked if any other treatment was employed by Dr. Brown besides that stated in treating the patients referred to in his paper.

Dr. Brown, in reply, stated that he gave hot air inhalations along with the treatment described, this being followed by medicated compressed air. In inoculations with sputum containing bacilli, the bacilli and ptomaines are difficult to separate, hence the presence of the former in injected sputum.

#### PATHOLOGICAL SOCIETY OF TORONTO.

Nov. 29, 1890.

The President, Dr. J. E. Graham, in the chair.

##### NEPHRITIS, PROBABLY DEPENDENT UPON PERNICIOUS ANÆMIA.

Dr. J. E. Graham presented the kidney, spleen and liver, and read the following history, taken on admission to the hospital: W.F., æt. 25; occupation, overseer of a saw-mill; admitted October 13th, 1890. No trace of any hereditary disease, habits temperate, never was overworked; had usual diseases of childhood, except scarlatina; five years ago had pneumonia of the right lower lobe. About six months ago he began to feel out of sorts, having pains throughout his body, with considerable weakness and profuse epistaxis every day. These symptoms have continued to the present. His father said he had been anæmic for more than six months before he complained of his present trouble. A short time before his first feeling unwell he had been rafting logs and received a thorough wetting, followed by a chill and severe cold. He is 5 ft. 9¼ in. in height, and weighs 168 pounds; well-developed, and muscular. Face has a slightly yellow tinge, and shows marked anæmia. There is some œdema of the ankles and lower part of the legs.

*Alimentary System.*—Lips pale, teeth dark in color, but sound, gums pale, tongue coated with a whitish fur and soft, appetite very good. No

marked thirst. During the last six months he has been subject about once in three weeks to attacks of sick stomach, which terminate in vomiting. Bowels are fairly regular, has never suffered from continuous diarrhœa, but has had short attacks of it. Liver situated lower than normal, abdominal walls fleshy, abdomen full, no pain or tenderness, no fluctuation.

*Circulatory System.*—Inspection: A forcible heart impulse can be seen. On palpation a heaving sensation can be made out at the apex, which is displaced to the left in a line with the nipple. Percussion: the area of dullness is increased. Auscultation: the heart sounds are loud and clear, and can be heard over a considerable area. The second sound is accentuated. Pulse, 74, strong, full, and tense.

*Respiratory System.*—Breathing, twenty-one per minute, natural in type, no cough or expectoration. Inspection reveals nothing abnormal. Palpation shows diminished vocal fremitus over the lower lobe of the right lung before and behind. Percussion: a light dullness over lower lobe of right lung. Auscultation: over the chest generally the breath sounds can be distinctly heard, and the expiration is more plainly heard than usual. The sounds are weaker over the lower part of the right lung.

*Urinary System.*—No pain in loins, bladder, or urethra, until this last week; from the beginning of his illness, he has had to rise twice in the night to urinate; for the past week he has not had to do so. He generally passes his urine four or five times a day. In quantity it is less than formerly, being now about five or six cupfuls in a day. It is pale, acid, contains no sugar, but considerable albumen. On microscopic examination, abundant granular casts are seen.

*Nervous System.*—Sometimes experiences considerable itching of the skin. Patellar tendon reflex well marked. His sight is not as good as it was once. However, on having his eyes examined by Dr. Burnham, his sight was found to be normal. Dr. Burnham said that his retinæ were typical of albuminuric neuro-retinitis, with brilliant shining radiating lines of exudation.

*Progress of Case.*—Oct. 29th. For a week past he has been drowsy at times. He has vomited considerably and had frequent epistaxis. Examination of his blood showed that the red



corpuscles were 800,000 to the cubic millimeter; there are a number of microcytes, darker in color than red corpuscles usually are. There are a few megalocytes which are paler in color. There is no poikilocytosis to speak of. White corpuscles relatively, but not absolutely, increased. Size of corpuscles as follows:

|             |      |         |    |           |
|-------------|------|---------|----|-----------|
| Red         | 6½   | mikrons | in | diameter. |
| Microcytes  | 2-4  | "       | "  | "         |
| Megalocytes | 8-10 | "       | "  | "         |

Urine: as far as could be ascertained, the amount is small. No sample for examination has been obtained for a week.

*Remarks:* At first Bright's Disease was suspected. From the examination of the blood, however, pernicious anæmia was diagnosed for the following reasons: (1) the history; (2) the appearance of the blood; of course in nephritis we have changes in the blood, but not so marked as in pernicious anæmia; (3) the condition of the liver *post mortem*; it was chocolate colored. The kidney showed tubal nephritis with some interstitial infiltration also, and marked fatty degeneration. Retinal hemorrhages might be found in either Bright's Disease or pernicious anæmia. The view of the case entertained is that the nephritis followed on pernicious anæmia.

Dr. Acheson asked if there were any pathological changes in the peptic or intestinal glands, such as are frequently found in cases of pernicious anæmia. He thought the condition of the kidney might be accounted for as a result of pernicious anæmia. A hæmatogenous tubal nephritis was to be expected.

Dr. A. B. Macallum said some observers diagnosed pernicious anæmia by the presence of megalocytes; and as none were reported over ten mikrons, it would be concluded that this was not a case of that disease. Possibly, however, in this instance the few megalocytes, which are of diagnostic value, were overlooked. He finds that there is a peculiar change in the endothelial lining of the capillaries of the liver, in acute yellow atrophy of that organ; the result of albumose poisoning; and he thinks the same change may be brought about in the liver of pernicious anæmia, and the sections shown support this view.

Dr. McPhedran thinks the examination of the blood will not bear out the diagnosis of pernicious anæmia in this case; nor was the condi-

tion of the urine suggestive of that. The urine in Dr. Graham's patient was pale, he (Dr. McPhedran) finds the urine dark in color, while of a low specific gravity, especially after the febrile exacerbations. He asked whether gross specimens of the liver had been tested for free iron.

Dr. Oldright referred to a case of kidney disease where the condition of the organs was very similar to this case.

Dr. McPhedran in answer to a question by Dr. Acheson, said he believed the condition in pernicious anæmia to be one of hæmolysis.

Dr. Acheson agreed that the condition was in all probability a true hæmolysis due to the absorption of albumoses from the intestinal canal.

Dr. Graham, in reply, said the *post mortem* in this case was unfortunately very imperfect. In regard to the color of the urine he was of opinion that in most cases of pernicious anæmia it was high colored and of fairly low specific gravity. There was no examination of the liver for iron. The diagnosis of the case was difficult, and he could not be certain about it. The general appearance of the patient and his mode of death were those of pernicious anæmia; while the epistaxis, retinal hemorrhages, and œdema, are found in both diseases.

#### MAMMARY TUMOR.

Dr. Oldright presented the specimen, and gave the following history: Miss D., aged 40, unmarried, has suffered for some years with pain in the left mammary gland, and latterly it has extended to the shoulder and arm. The breast has been enlarged, the lobes being somewhat hard and tender. Dr. Oldright ordered anodyne applications and alteratives. About seven or eight months ago it was observed that one of the axillary glands was somewhat enlarged, and in concert with Dr. W. T. Aikins, removal (of breast and gland) without further delay was advised. From various causes this advice was not acted upon until ten days ago. A few weeks ago one of the glands in the upper part of the posterior triangular space of the neck was found to be enlarged and tender, but this condition ceased after the removal of an aching tooth. The case was a somewhat peculiar one. The specimen was referred to the Microscopical Committee for examination and report at the next meeting.

## DIAPHRAGMATIC HERNIA.

Dr. Olmsted, of Hamilton, presented a specimen, and read the following history :

*Previous history:* In June, 1881, the patient, George J—, was marking at Victoria Rifle Ranges. By some mistake he went out to examine the target without putting up the danger flag, the result being that one of the marksmen shot from a point, nine hundred yards distant, piercing the body of J., and scored a bulls-eye. J. said he felt a stinging sensation in left side followed by a feeling of warmth, but did not know that he was shot until he saw blood on the target. He then turned and ran towards the shooters, shouting like a madman. After he had gone about three hundred yards he fell. When assistance arrived, patient was very much frightened and vomited a small quantity of blood. There was an opening in left side of thorax posteriorly about two inches to left side of spine, and between the seventh and eighth ribs, where the bullet (44 cal. Remington) entered, and another anteriorly between the fifth and sixth ribs, in mammary line, caused by its exit. Surgeon Griffin, of 13th Battalion, informs me that the patient had an attack of pneumonia after the accident, but was quite well in about two weeks. Nothing more was heard of J. until March 14, 1890, when he walked into the hospital and said he was suffering from constipation. He was very reticent, and hence little or no history of his case was taken. After he had been in the hospital a few days, I am told he developed peritonitis, which caused death in two days, viz., 21st March, 1890.

The following is a condensed report of the *post mortem* notes taken nine hours after death, viz.: George J., æt. 45; powerfully built, rather corpulent man.

*Abdomen:* On opening abdomen, intestines were found very much distended and glued to the upper and left side of the abdominal wall with recent lymph. About 500 cc. of reddish fluid in abdominal cavity. That portion of the small intestine which is bound to the wall was of a dark-greenish color and semi-gangrenous. The ascending and transverse colon were very much distended. On tracing this bowel up it was found to pass through an opening in the left leaflet of the central tendon of the diaphragm. The descending colon emerged from

this opening and was very much contracted; stomach was displaced to right.

*Thorax:* On raising sternum, the anterior border of the right lung was emphysematous and pleura adherent. Left pleural cavity contained 150 cc. of a reddish fluid; lung pushed up and contracted, not descending lower than third rib. The lower part of cavity was filled with a mass of colon, covered by the great omentum, the whole mass measured 9.5 cm. wide, 12 cm. in antero-posterior, and projected 10 cm. into pleural cavity. The opening in the diaphragm corresponded to the interval between the fifth and sixth ribs, and 7 cm. to left of median line. At the anterior and posterior part of the hernia were two condensed masses of fat and omental tissue, while a thin layer of omentum covered the surface of gut. Around the opening in the diaphragm was a strong constricting band formed from old inflammatory deposits, also some recent lymph. The omentum was bound to the upper surface of diaphragm, and the walls of the intestine to the under surface. The pleura was thickened. The hernia contained hardened masses of fæces. Water could be injected from the ascending colon into the hernia, but not from descending, thus showing complete obstruction. On attempting to remove the specimen, the posterior surface of gut was found to be greenish-black in appearance, and so soft that a small rent was made into it, notwithstanding the great care taken.

From the appearance of the hernia it was judged that it had existed for years, although there was no history of his having suffered, except occasionally, from shortness of breath. The heart was displaced somewhat to the right. All other parts normal.

## HIP DISEASE

Dr. B. E. McKenzie presented a specimen and made the following remarks on the case, and on the pathology of hip disease :

The notes of the history of the disease in the case from which this specimen was taken are incomplete. M. H., female, æt. 8 years, was one of a family of three children, one of whom died of convulsions in infancy, and one is now in the Hospital for Sick Children under treatment for caries of the spine. The child was admitted to the hospital suffering from hip disease, in Oct., 1886, under the care of Dr.

McPhedran. There is no note to show the condition at time of admission, but her temperature varied at that time between the normal and  $101^{\circ}\text{F.}$ , and an abscess was opened shortly after admission. Occasionally, for a few weeks at a time during her continuance in hospital, the evening temperature did not go much above  $99^{\circ}\text{F.}$  Generally, however, the evening temperature ran up to  $100^{\circ}$  or  $101^{\circ}\text{F.}$ , and occasionally reached  $104^{\circ}\text{F.}$  During all this period there were suppurating cavities, and for the latter part of the time numerous sinuses, which could be found to connect with intrapelvic sources of suppuration. No operation was at any time performed other than that necessary to drain abscess cavities.

At examination *post mortem* firm ankylosis of the right hip was noted, also adduction of the limb to about  $30^{\circ}$ . There was no shortening, measurement being made from the ant. sup. spines of the ilium. There was slight lordosis, showing a slight amount of flexion. Upon the surface there were noted six sinuses, two ant. to and lower than the ant. sup. sp. process, two behind and below the gr. trochanter, and two about the crest of ilium. The viscera were characterized by marked amyloid degeneration. No tubercles were noted in the lungs; but several bronchial glands were found in a condition of calcareous degeneration, and the mesenteric glands were slightly enlarged. The kidneys were firmly bound down and imbedded in inflammatory tissue. In the right ureter were found two angular calculi which readily permitted the passage of urine.

The right os innominatum and upper half of the femur were removed. The inside of the pelvic bone was thickly covered by inflammatory exudate, which was traversed in all directions by sinuses; and some small pockets of pus were found. One sinus passed through the ischium and is indicated in the specimen. The section through the femur and the pelvic bone permit the osseous union between the two to be well seen. The fact that the head of the femur and the acetabulum have not "travelled upward," as they so frequently do in old hip disease, is probably due to the treatment adopted—by traction upon the limb by the weight and pulley, thus preventing the head of the femur from being pulled up against the upper portion of the acetabulum.

It is now very generally held that "hip disease" is an osteitis of tubercular origin, in nearly all cases, and that it generally begins about the femoral epiphysal junction.\* Occasionally, however, the disease begins in the acetabulum, and extends afterward to the joint and involves the femur. Gibney records a case of double hip disease, which, upon *post mortem* examination, showed the tuberculous focus to have originated in the acetabulum on one side and in the head of the femur on the other.†

The various centres of ossification, because of their physiological activity, form fertile soil for the development of tubercle. The tuberculous process having begun in the bone, a long time may elapse before the intra-articular structures become involved. Macnamara, Wright, of Manchester, Emmet Holt, Cheyne, and others, show specimens that reveal the articular surfaces normal in appearance, longitudinal section of which shows tubercular foci centrally situated in the bone. Though the contiguous joint surfaces may not reveal anything abnormal, yet symptoms probably due to reflex nervous action may be present, giving clinical evidence of the disease.

In adults it is claimed that the disease originates more commonly as a synovitis.

In the specimen here presented it is probable that the disease began in the acetabulum, and at an early date perforated its floor. While there is evidence of extensive destruction here, the loss of tissue in the femoral portion of the articulation is not great.

The specimen is interesting in several particulars: (1) It shows the effort on the part of nature to bring about a cure by ankylosis. (2) The natural tendency to produce adduction, thus leaving a shortened limb on the diseased side, and curvature of the spine. (3) Marked atrophy of the shaft of the femur, probably greater than can be accounted for by disuse. (4) The inutility of operative measures when the disease has attacked the acetabulum and made much progress.

The exudate about the sinuses has been examined for bacilli—with negative results up to the present.

\*Wright: *Hip Disease in Childhood*, p. 17. Bradford & Lovett: *Orth. Surg.*, pp. 214 and 255. Gibney: *Diseases of the Hip*, pp. 170 et seq. Macnamara: *Diseases of the Joints*, 1887, pp. 419 and 437. †Gibney: *Diseases of Hip*, p. 181.



Dr. McPhedran said when the patient was admitted to the hospital there was flexion. This was gradually overcome and the prospects were good for a time, but abscesses and sinuses formed, and the patient went down hill.

Dr. Acheson asked if bacilli have ever been found in the discharges from hip disease.

Dr. McKenzie replied that bacilli have been found in the diseased tissues, but not in the discharges.

Dr. Graham presented a specimen of malignant disease of the pylorus.

Dr. Cameron presented a specimen showing stricture of the rectum, multiple ulcers in the colon, and perforation of the transverse colon.

Drs. McPhedran and Graham took part in the discussion, and Dr. Cameron replied.

#### REPORT OF MICROSCOPICAL COMMITTEE.

The Microscopical Committee reported on the specimens submitted to them as follows:

1. The tumor from the peritoneum in Dr. Scadding's case (see CANADIAN PRACTITIONER, page 115) was a myeloid sarcoma, showing in some places a structure strongly resembling carcinoma. Being derived from the peritoneal endothelium, there was a possibility that there might be a transition from a connective tissue tumor to a true epithelioma.

2. The ulcer of the pylorus presented by Dr. H. W. Aikins (see CANADIAN PRACTITIONER, page 116) was a simple ulcer.

3. The rectum from the case of chronic dysentery, presented by Dr. W. P. Caven (CANADIAN PRACTITIONER, page 116), showed thickening of all the coats of the bowel, especially of the submucosa, and the endothelial cells of blood-vessels were in many places greatly enlarged and proliferating, probably the result of albumose poisoning. There were also foci of inflammatory infiltration here and there.

The Society then adjourned.

### Pamphlets Received.

*The Surgical Conception of Peritonitis.* By Joseph Price, M.D., Philadelphia.

*A large group of mixed specimens, illustrating the principle of Pelvic and Operative Surgery.* By Joseph Price, M.D., Philadelphia.

*A death caused by Uterine Dilator, with some remarks as to the proper method of using the Dilator.* By Howard A. Kelly, M.D., Professor of Gynecology in the Johns Hopkins University; Gynecologist and Obstetrician to the Johns Hopkins University, Baltimore, Md.

*Paranephric Cyst.* By Robert Abbé, M.D. Reprint from the *New York Medical Journal*, August 9th, 1890.

*Koch's Method of Treating Tuberculosis.* A Lecture delivered in the Jefferson Medical College, January 8th, 1891.

*Pernicious Anæmia, with a report of five cases.* By A. McPhedran, M.D., Lecturer in Clinical Medicine in the University of Toronto.

### Personal.

DR. GEORGE M. SHAW, of Hamilton, President of the Medical Alumni Association of the University of Toronto, was in Toronto a few days ago consulting with the Committee of Arrangements about the annual dinner for this year.

MR. W. N. BARNHART has won the Ferguson medal, presented by Dr. John Ferguson to the University of Toronto Medical Society for annual competition.

MR. THOMAS MIDDLEBRO has been awarded the prize of twenty-five dollars, presented by Dr. R. A. Reeve to the member of Dr. Primrose's class who passed the best examination in topographical anatomy. The examination was conducted by Drs. Primrose and Peters.

DR. R. A. HARDIE (Tor. '90.), who was sent by the University of Toronto Y.M.C.A. as a missionary to Corea, was compelled to appeal to his comrades of the Association for assistance, and necessary funds were at once forwarded.

At a meeting of the London Obstetrical Society, held Feb. 4th, the president, Dr. Galabin, gave rather an extended obituary notice of the late Dr. Mathews Duncan in the course of his annual address. The members present rose and remained standing until the completion of the remarks referring to the life, work, and character, of the great obstetrician.

## Miscellaneous.

THE Toronto University Medical Society has elected these officers: President, Dr. G. A. Peters; First Vice-President, J. J. Harper; Second Vice-President, J. N. Harvie; Corresponding Secretary, George Clingham; Recording Secretary, J. B. Peters; Treasurer, Dr. John Ferguson; Assistant Treasurer, J. H. Alway; Curator, S. Agnew; Councillors, J. F. Pinkham, J. McCullough, W. J. Smuck, H. J. Way, J. H. Hopkins.

MEDICAL EXAMINATIONS.—The spring medical examinations will be as follows: Victoria University, March 13, 14, 16, and 17; Trinity Medical College, March 18, 19, 28, 30, and 31; University of Toronto, April 1 to 13; College of Physicians and Surgeons of Ontario, April 14 to 30. We understand that these examinations will all be held in the Medical Council building, corner of Bay and Richmond streets.

MEDICAL EXAMINERS, UNIVERSITY OF TORONTO.—The following is a complete list of medical examiners: Surgery, Drs. F. W. Strange and B. E. McKenzie; Clinical Surgery, Drs. C. O'Reilly and G. A. Peters; Medicine, Drs. H. H. Wright and J. E. Graham; Clinical Medicine, Drs. A. McPhedran and W. P. Caven; Anatomy, Drs. M. H. Aikins and John Ferguson; Practical Anatomy, Drs. H. Wilberforce Aikins, and A. Primrose; Surgical Anatomy, Dr. G. A. Fere; Physiology, Dr. A. B. MacCallum; Histology, Dr. Acheson; Materia Medica, Dr. Avison; Therapeutics, Dr. J. M. MacCallum; Midwifery, Dr. Griffin; Gynæcology, Dr. Allen Baines; Pathology, Drs. H. A. MacCallum and John Caven; Hygiene, Dr. Rae; Forensic Medicine, Dr. W. W. Ogden; Medical Psychology, Dr. D. Clark; Chemistry, Dr. Chambers; Biology, Dr. J. J. McKenzie.

THE ATMOSPHERIC TRACTOR FOR OBSTETRICAL PURPOSES.—It is more than thirty years since Professor J. Y. Simpson endeavored to make an air tractor which could be used, through atmospheric pressure, in assisting the delivery of the child in labor. A few years ago Dr. Walker, of Peterboro, Eng., tried to make a cup-shaped rubber instrument which could be

applied on the same principle to the child's head in such a way that traction could be employed to complete delivery. In 1885 Dr. Peter McCahey, of Philadelphia, commenced to work in the same direction without any knowledge of previous efforts. He has a cup-shaped instrument much like Dr. Walker's, and claims that it can easily be applied, and is, in many cases, quite effective. The efforts of Sir James Simpson and Dr. Walker were not successful. Whether Dr. McCahey will have better results remains to be seen. We have just received one of these instruments, which is made of rubber and is very simple in construction, but have not yet tried it in obstetric practice.

THE following is an extract from a letter written by the late Dr. Moses Gunn, of Chicago: "We may brave the pestilence when all others flee; we may remain firm at our posts when death is more imminent than it ever was on the battlefield; but who sings our praise? Does the world know who the physicians were who fell at Norfolk when yellow fever depopulated that town? Does it know who rushed in to fill their places? And of those who survived, can it designate one? Did they survive to receive fame? Yet those men were braver than the bravest military leader, for theirs was a bravery unsupported by excitement or by the hope of fame. No! there are none so poor as to do us reverence. And, thank God, there are few of us so unsophisticated as to expect it."—*N. Y. Med. Jour.*

THE College of Physicians and Surgeons of New York has become the medical department of Columbia College, in reality, and not simply in name. We learn from the *Medical Record* that under the new arrangement "the medical professors will receive regular salaries from the board of trustees of the college, but will reserve the privilege of nominating the members of their particular faculty."

ANNOUNCEMENT.—E. B. Treat, Publisher, N.Y., has in press, for early publication, the ninth yearly issue of the "International Medical Annual." Its index of new remedies and dictionary of new treatment, epitomized in one ready reference volume at the low price of \$2.75, make it a desirable investment for the busy practitioner, student, and chemist.

THE  
CANADIAN PRACTITIONER

FORMERLY "THE CANADIAN JOURNAL OF MEDICAL SCIENCE."

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A. H. WRIGHT, B.A., M.D. Tor., M.R.C.S. England.

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TORONTO, APRIL 1, 1891.

Original Communications.

TYPHOID FEVER.\*

BY WM. OLDRIGHT, M.A., M.D.,

Professor of Hygiene in the University of Toronto.

In this paper I shall say very little about the type of the disease during the recent epidemic, and about treatment, as these will, no doubt, be subjects to which my colleagues of the department of Practice of Medicine will direct your attention at greater length.

I fear that in connection with the epidemic which has prevailed throughout the province, and in various other portions of this continent, Toronto has received more than its own share of prominence. It is not my intention to point the *tu quoque* finger at any other individual locality by name, but I have gathered from provincial and other authorities sufficient data, and I may say in general terms that there are at least two cities in the province whose ratio of cases to population are greater than that of Toronto; one village in which it has been double, and one township in which it has been 50 per cent. greater.

My available figures from cities south of the border are limited to two; they show in one large city a slight increase over us, as shown by the death rate; in the other the ratio of cases this year is only half of ours, a decided decrease having taken place there as compared with last

year; still we should not continue in our sanitary transgressions even in company. Toronto has been noted as a healthy summer resort for our neighbors to the south, and should seek to regain and maintain her reputation in that respect.

*Laboratory and other observations on the life of bacilli of typhoid.*—It is not my intention to refer to all the facts which have been made known in regard to the life, history, and reproduction of the bacillus of typhoid, but only to a few which, it has occurred to me, may throw practical light upon the causation, spread, and restriction of the disease.

The growth and reproduction of typhoid bacilli outside the body has been demonstrated in the laboratory. It has been shown that for their successful cultivation a certain amount of organic matter is necessary. Dr. Meade Boulton has found that in beef broth, containing 6.7 parts per 100,000, they will live for months. The cultures can also be more successfully manipulated with certain forms of organic matter than with others. Conversely, it has been shown that the absence or great scarcity of organic matter is unfavorable to their development, that in a class of waters designated "potable waters" they will die out in a brief period—say, six days.

Interesting observations have been made in regard to the action of various kinds of micro-organisms (and amongst others the typhoid bacillus) on each other. Temperature has been found to have a decided modifying influence. Vaughan found that at a temperature of 20° C.,

\*A paper read at the Post-Graduate course of the University of Toronto, December 19th, 1890.



or 68 F., the typhoid bacilli would increase in such numbers as apparently to kill out the ordinary water forms. It has been observed that at lower temperatures their vitality is impaired, and that at 46 F. they would disappear in six days, the ordinary water forms maintaining their supremacy. Prof. Dixon, of Philadelphia, obtained similar results in five days with typhoid bacilli in Schuylkill water.

At this point, however, we must guard against an incorrect argument that might be based on the fact just mentioned; I refer to the fallacious supposition that impure water will yield pure ice, and that freezing will kill pathogenic germs. The endemic at Plymouth, Pa., four or five years ago, has furnished us with one of the notable proofs of the fallacy of this supposition. Plymouth is supplied from four reservoirs at different elevations, fed by a mountain stream. When the supply to these becomes scarce, water is pumped from the river. This was the case from the 20th to the 26th March, the lower three of the reservoirs being nearly empty; but on the 25th a thaw set in, and on the 26th the upper two reservoirs became full; the water was let down from the third into the fourth, and the town was supplied from this water. About fifteen days later an epidemic of typhoid broke out. It was afterwards ascertained that during February, and portions of January and March, the dejecta of a typhoid patient had been continuously thrown on the snow and frozen ground, within seventy feet of the bed of the stream, a short distance above the third reservoir. The thaw which set free the mountain stream and filled the reservoir also carried into the lower two the frozen accumulations from the typhoid patient.

The direct bearing of such observations on our ice supplies is obvious, and I must here commend the action of our health authorities, last winter, in stopping the cutting of ice from the bay, and the fairly ready acquiescence of ice dealers and their enterprise in obtaining good supplies from purer sources in the less densely populated portions of the province.

Whilst a low temperature so lessens their vitality that they gradually die out, freezing suddenly stops all vital action and keeps them stored for action in the future. Another way in which the bacillus is stored and propagated is by being

dried and pulverized, as when excretal stops are thrown upon the ground, dried, and blown through the atmosphere. The experiments of Kraus show that the vitality of the typhoid germ is greater than that of cholera—that it will live longer in the struggle with the ordinary water forms.

Last year Karlinski published in the *Centralblatt* the results of investigations regarding the behavior of typhoid bacilli in typhoid dejections. He arranges them as answers to the following questions:

1. In what time can the specific typhoid bacilli be demonstrated in the dejections of patients?
2. Can the demonstration of typhoid bacilli in the fæces be looked upon as a diagnostic sign?
3. How long does the vitality of bacilli in typhoid dejections last?
4. How long do the bacilli in typhoid stools, in pits, retain their vitality?

Search was made from the fourth day onwards, dating from the initial chill. The bacillus was not found before the ninth day in any case. In the greatest number of cases (nine) it was found on the fourteenth, the range being very wide—from the ninth to the twenty-first; the actual numbers being two on the ninth, two on the tenth, four on the twelfth, nine on the fourteenth, two on the seventeenth, and three on the twenty-first. The time at which they began to disappear seemed to have a marked coincidence with the fall of temperature in the patient and the cessation of diarrhæal stools. In many cases this was about the twenty-fourth day, and in no case were they found later than the fiftieth day.

The bacilli in the stools did not in any case retain their vitality for more than three months. This limitation, if substantiated by later observations, is worthy of note; showing that in its natural medium the bacillus dies out more rapidly than if it starts off and finds fresh fields and pastures new under favorable conditions. The keeping of them in different temperatures had no noteworthy influence on the duration of the vitality in the stools; but the addition of some other forms of bacteria had.

*Modes by which the disease is spread.* I need not dwell upon the numerous methods by which the typhoid bacilli obtain admixture with our food and water, and gain entrance into the *primæ viæ*, nor upon their immense multiplica-

tion in the different media. I would, however, like to draw your attention to a "Report on an epidemic of typhoid fever at Springwater, New York," published this year. Springwater village is situated in a valley of the same name, two and a half miles south of Hemlock lake, a lake about six and a half miles long, from which the reservoirs supplying Rochester are fed. Springwater village is situated on the main affluence of Hemlock lake. By a calculation given in the report, it seems that under certain conditions germs might travel from Springwater to Rochester in thirty-six hours. It is this danger to their water-supply that led the authorities of Rochester to institute an investigation. The first case observed in Springwater was that of Orson Grover, a boy who was supposed to have imbibed the bacilli from a well in close proximity (30 ft.) to the privy of the village inn, and fifteen feet away from a slop drain. It is supposed that the privy had been infected by some case of ambulatory typhoid. The boy Grover was removed to his mother's house, and a second pit was thus infected, which by soakage infected the school-house well, and by similar repetitions and interchange the epidemic rapidly spread.

One question is sometimes raised: Can the germ be carried through the air by ascensional currents? I think there are few of us who have not met with cases where the circumstances have been such as to confine us for an explanation to the action of sewer gas obtaining entrance into the houses where they occurred. One of the most striking examples of this occurred to me in a family where five members were threatened with low fever. The plumbing being found fairly satisfactory, I directed an examination of the weeping drains to be made, and when one of them was opened, a strong and continuous current blew up into the cellar. The drain had forgotten to weep, and its trap had become dry and useless. Two members of the household became ill with typhoid; one of them so ill that Dr. J. H. Richardson was called in in consultation. I mention this in corroboration of the diagnosis. The condition of the weeping drain was at once rectified. The other three members escaped without a well-marked attack.

There are no authenticated instances, so far as I am aware, of infection with the disease from the ascent of typhoid germs from bodies of

still or comparatively still water in the open air, but it will readily be seen that it would be difficult to dissociate this condition from other circumstances.

With water splashed through the air in the shape of spray or foam, the case is different. This, and the fact that bacilli may be wafted in the form of dust, should be borne in mind before filling watering-carts from a filth-polluted bay! In connection with the epidemic through which we have been passing, one interesting fact has been brought to my attention by a professional friend and colleague. A slight secondary outbreak which occurred in a public institution at a time when the epidemic had pretty well subsided elsewhere, he attributes to the fact that drinking water is drawn from a cistern in the building. Some of the germs, having been introduced into the tank at an earlier period, have found in the organic silt and increased temperature a suitable culture field. The danger of domestic tanks has often been pointed out, but we have not had illustrations so near home. And in this connection it would be as well to remind our fellow-citizens that many of our baths and closets are supplied from tanks, and that from the taps of the former many persons will take an occasional drink. It would therefore be well that at the present juncture *pater familias* should have his tank thoroughly cleaned out, a duty to which he should at all times attend at regular and frequent intervals.

*The general conclusions* to be derived from our experience, and strengthened by the foregoing observations, are:

That we should have no dead organic matter lying idly around as fodder for the germs of disease.

That all such matter should be destroyed or by some safe disposition returned to living organisms or to innocuous decomposition.

That we should deal actively with the very first case or cases of infectious disease, and destroy the germs; that they can be more readily dealt with by active treatment in the first case than when they have multiplied.

These abstract general principles will perhaps appear less formidable if we apply them to specific details and illustrate them by reference to specific cases. Taking them in order, let us apply the first to

*Our water supplies.*—The scheme of obtaining water from Lake Simcoe has been resurrected and is again being discussed. The very first question that ought to be decided is whether Lake Simcoe water is the best for us, even were it at our door. In a published report by Prof. Ellis, different samples of it are rated as second and third class, that of Lake Ontario being first-class, the water of Lake Simcoe containing a greater quantity of organic matter; and it has been shown that organic matter is favorable to the growth and multiplication of typhoid bacilli. Again, will it be any more feasible for us to safeguard the waters of Lake Simcoe and the intake and channel leading from it than to protect the much purer water in our own neighborhood? This last remark leads to a second question that is awaiting solution. It was recommended by Prof. Galbraith four years ago, in a report in which I was associated with him, that a sufficient number and variety of float experiments be made to determine where our sewage could be emptied without danger of contaminating our water supply. These two points should be positively determined before any further engineering schemes are elaborated, and the determination of them could be made at a cost trifling in comparison with the outlays that have been made in connection with engineering schemes to which they should have been preliminary. In country districts the cleansing of wells and their protection from soil pollution and surface pollution will come under this head, and where rain water is used, the frequent cleansing of tanks, roofs and eave-troughs.

*The means of keeping the soil free* from accumulations of organic matter are obvious. I cannot, within the limits of this paper, enter into the details embraced under the following heads:

Abolition of privy-pits and cess-pools.

Substitution of systems of dry-disposal and sewerage.

Cremation of refuse.

These reforms have been urged again and again by our late medical health officer, and the subject of crematories is even now being pressed by our acting medical health officer, the Chairman of the Board of Works, and others. It has been agitated in the past again

and again by our City Commissioner, but still we have no crematory, and indecision as to the experimental expenditure of a few thousand dollars has, with other neglects, cost the city a hundredfold the amount required. And in the refuse dumps throughout the city we have stored up choice building sites for the future. In this connection it may be of interest to show diagrams of some of the crematories which are being discussed, and which some persons here present may not have seen.

*The freeing of air* from organic impurity by means of sufficient ventilation, and doing away with over-crowding (as well as by avoidance of soil pollution just referred to), is a subject which would require a paper of its own.

I think that practically there is not sufficient care taken to destroy the germs in typhoid stools. The best that is done, in cases where the subject receives attention, is to put a solution of 1 in 500 of bichloride of mercury in a vessel to receive the dejecta, cover them over with the same, and at once empty their contents into a closet, privy-pit, or hole in the ground. How can this be expected to act on the bacilli? If this plan of destruction is aimed at, the bichloride solution and dejecta should be stirred together, and the mixture allowed to stand long enough to give the bichloride an opportunity of acting. The fresh faeces will not endanger the operator. The piece of stick used can be kept in bichloride solution. Where there are furnaces with capacity for good fires, cremation should be adopted. In this case the dejecta can be received into vessels containing carbolized saw-dust. This will protect the walls of the vessel and facilitate the cremation. These (metallic) vessels can be provided with close covers.

If it be remembered that soiled linen is not placed in the first instance in boiling water by the washer-woman, but receives a preliminary washing in merely warm water, which may be afterwards thrown out in the yard or poured down a sink, it will be apparent that the precaution of soaking such linen for some hours in a germicidal solution is absolutely necessary. Some are too apt to rely upon the boiling alone. A new and striking illustration of this is given by J. C. Wilson, of Philadelphia. A serious endemic existed for years among the



German soldiers in a certain garrison, from linen not properly disinfected, and ceased when this precaution was properly attended to.

In these matters the co-operation of the health officer and his staff ought to be courted rather than resented; and my opinion is that for systematic disinfection, personal oversight by a *competent* inspector is at first, and from time to time, necessary.

I would here emphasize the necessity of prompt reporting of infectious diseases, for how otherwise can the germs be stamped out in the incipency of what must otherwise become an epidemic?

*Local boards of health.*—I would also add my voice to the representations that are from time to time made regarding the composition of these boards. It does not need much argument to convince the ordinary individual that men who understand disease, sanitary architecture, plumbing, engineering, chemistry, and biology, are more fitted to deal with sanitary matters than men who have no knowledge of these subjects.

*Practical scientific work.*—Having referred in this lecture to the progress, side by side, that is being made in scientific, biological and chemical investigations, and their practical application to the prevention and cure of disease, I cannot refrain from alluding to the work that is being carried on by this University and in this building. Can it be shown that the scientific labors of Professors Ramsay Wright, Ellis, Pike, Loudon, and Macallum, have been retarded by association with their colleagues in this Medical Faculty? Do they not rather derive additional stimulus and satisfaction by the practical application of a portion of their work to various problems of surgery, medicine, and hygiene? I need not ask you if this association and collaboration has diminished the interest of either the profession or the public in University work, for your presence at these lectures and the attention with which you have listened to them render the question unnecessary; and I know that in regard to this faculty of the University, as well as in regard to others, you will join in the expression of our university motto: "*Velut arbor ævo crescat, velut lampas luceat.*"

That our Vice-Chancellor recognizes the

value to the people of such association of scientific research and its practical application is evinced by his recent generous conduct, and the letter in which his proposition was made known to the faculty.

Nor would I close a paper in which I have referred so often to bacteriological investigations without expressing the gratification of many of us at another new departure which has recently been made. I refer to the inauguration of the bacteriological laboratory in connection with the Provincial Board of Health, in which at the present time Mr. J. J. McKenzie, B.A., a graduate and recent fellow in biology of this University, is carrying on researches in connection with the typhoid bacillus. I am sure you will join with me in expressing appreciation of the wisdom of the Government in aiding this onward movement for the preservation of the public health, recognizing once more the motto of the Provincial Board of Health:

"*Ne pereat populus scientia absente.*"

## KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT,

Communicated from Berlin to the University of Toronto.

I was present at the last meeting of the Berlin Medical Society when Liebreich made his promised statement with regard to the new remedy which he had suggested for use in tuberculosis—especially for such superficial and easily watched forms as laryngeal tuberculosis.

He certainly created a sensation when he stated that his remedy was really an old friend in a new dress—viz., cantharides. He had been led to suggest its use by observing the effect of Koch's tuberculin in lupus, which recalled to him the action of certain irritants in the same disease. He therefore experimented with the pure substance, cantharidin, or rather with the potassium salt—cantharidate of potash, with the object of ascertaining what dose could be safely introduced hypodermically. It had been observed that the tendency of the drug is to bring about transudations from the capillaries, and it occurred to him that if the dose could be ascertained which would not affect normal capillaries, but which would cause a transudation through the walls of those already

in a state of pathological irritation, the result might be beneficial to the morbid tissue. He conceived that the bacteria-killing power of blood-serum might be thus brought to bear in a very direct way on local accumulations of micro-organisms, or that, by a combination of methods, drugs which otherwise with difficulty reach their destination might be poured out at the exact points desired. The dose of cantharidin which appears to produce no disagreeable effect on normal organs—the kidneys being of course first considered—is 0.2 mg. He prepares a fluid containing this amount per cc. as follows: 0.2 gr. cantharidin and 0.2 gr. caustic potash are heated in 20 cc. water over a water-bath and filtered—the solution is made up to one litre, so that each cubic centimetre contains 0.2 miligramme of the active substance. Three times this dose can be administered without fear of any evil effects, but it is safe to begin with  $\frac{1}{10}$  and not to go beyond  $\frac{4}{10}$  of a miligramme.

Liebreich made a good deal of his disclosing at once the nature of his remedy to his colleagues, and of the certainty of having a pure substance to deal with.

The latter is certainly the direction in which the Koch tuberculin will have to be improved, so as to admit of more accurate dosage.

Professor Naunyn, of Strassburg, concludes a report on the otherwise unfavorable use of the Koch lymph in incipient phthisis, by observing that whoever has seen a case of lupus react to it cannot doubt that it attacks tubercular processes in a very special way. He observes that possibly several active substances are present in the lymph as furnished, and that the isolation of that to which the undoubtedly favorable results of the lymph are to be attributed may remove all danger. At least, he concludes, whoever is capable, at present, of impartially reviewing the effect of the lymph, and of picturing to himself the future which it suggests, cannot fail to recognize it as a scientific discovery of the highest importance.

I have sent to Dr. Macallum as much cantharidin as will be necessary for any experiment which your colleagues may desire to make, and shall let you hear soon of a third remedy which Prof. Ewald told me had been proposed.

## Selections.

### NOTES ON THE SUCCESSFUL TREATMENT OF OBESITY.

BY W. ALLAN JAMIESON, M.D., F.R.C.P.,

Extra Physician for Diseases of the Skin, Edinburgh Royal Infirmary; Consulting Physician, Edinburgh City Hospital.

The *raison d'être* of this brochure requires a word of explanation, since I make no claim to any special acquaintance with the measures best suited for the reduction of *embonpoint* either in men or women. My friend of more than twenty years' standing, Dr. Turnbull, of Coldstream, had invited me to spend a couple of days under his most hospitable roof. I had not failed to observe for some time past that there was a distinct process of shrinkage in bulk going on in Dr. Turnbull, and had indeed watched the diminution with no small degree of anxiety. When, however, I quoted Sir Douglas MacLagan's well-known lines—

"Guidman, are thae some borrowed claes,  
An' are your ain awantin' ?  
Or ha'e ye fa'n awa frae these ?  
Is this the wark o' Bantin' ?"

Dr. Turnbull assured me that there was no ground for concern on his account. He had tried Mr. Banting's plan in former years, but it did not suit him. He certainly did get thinner, but his health, his spirits, and his enjoyment of existence on the convex surface of this little planet all failed, and he felt himself, and his friends feared even more strongly, that if the procedure were to be persisted in for any time, his premature departure into the unknown was inevitable. He had now, he informed me, fallen on a much more thorough method, one which, while it was steadily decreasing his weight, was at the same time rendering him more active, and increasing his zest for life. He told me that many of those who had seen the improvement had urged him to publish the details of the system which had done so much for him, but he had an invincible objection to appear in print. He offered, notwithstanding, to supply me with notes of the plan, if I would prepare them for insertion in the *Edinburgh Medical Journal*. As will be seen from what follows, given almost in Dr. Turnbull's own language, another besides himself has already benefitted

James Downie, now aged fifty-two, left Berkshire for Leicestershire twenty-three years ago. He was then in good health. His habits were active, and he was strictly temperate. Six years subsequently he had an acute attack of gout, and was confined to bed for at least a month. From four to six times a year he had similar attacks, usually having a duration of two or three weeks. A couple of years later he had an excessively severe seizure, which necessitated his stay in bed for six months. He went, after he became convalescent, for six weeks to Buxton, where he greatly improved, but on the day after his return to Leicestershire he had a fresh outbreak. About fifteen years since he became utterly incapacitated for work, and had to resign his situation as stud-groom. He was now more or less confined to bed, or at best could not walk save with the aid of crutches. In 1885 he returned to Coldstream, but was seldom able to rise from his couch. From November, 1887, to December, 1889, he was constantly confined to bed and utterly helpless. During his illness he had consulted several physicians, and had taken an immense quantity of medicine. He believed that in the end of 1889 he weighed about twenty-two stones, and judging from his appearance, etc., his estimate was probably pretty nearly correct.

Reverting to Dr. Turnbull's own case, in consequence of suffering from great dyspnoea, Dr. Turnbull consulted Dr. G. W. Balfour in June, 1889. He then weighed twenty-two stones. He was advised to change his mode of living, and to place himself on a regulated dietary. Acting on his advice, Dr. Turnbull says: "I breakfasted at nine as usual, took an egg, half a slice of toast, and a small cup of tea. At two, a small basin of soup with a piece of toast. Dinner was at eight, when I had a little fish, the wing of a chicken, or an equivalent in mutton, with some green vegetables, and a very small bit of cheese with biscuit. After dinner I had half a glass of whiskey in half a tumbler of water, and one cigar, partook of no soup nor pudding of any kind with dinner. Under this system I steadily lost weight, so that on the 5th of December last I found that I weighed seventeen stones ten pounds. I gave up drinking any fluid during the day, and my weight at present (in the middle of September, 1890) is fifteen

stones seven pounds—thus I have lost in the course of about fifteen months six stone seven pounds.

"Having thus so greatly benefitted myself, I felt very sorry to see poor Downie so utterly helpless, and therefore proposed to him that he should try my plan of diet. He readily agreed to follow my advice, being encouraged by seeing for himself the difference in my size. He adopted the method in December, 1889, when he weighed, according to his own estimate, twenty-two stones. His exact weight now is sixteen stones ten pounds. From being quite unable to assist himself in any way, he can now walk about with the help of a stick. He had been a great water drinker, so he suffered very considerably for nearly a month from thirst, but he resolutely refrained from yielding, and now he feels no desire for liquids. In nearly every detail his diet was such as I had adopted, only he had neither whiskey nor tobacco.

"When, by the urgent advice of the late Dr. Warburton Begbie, I gave up the Banting system of reducing corpulence and resumed my usual diet, I very rapidly became heavier than before. I am satisfied now that the easiest way to lessen obesity with safety is to reduce the quantity of food, and especially of drink, to a minimum. A moderate amount of butter and fat should be taken daily. Sugar and starch ought to be avoided as far as possible, while potatoes and bread must be refrained from absolutely. Vegetables, however, are not contraindicated, but those which are most suitable are onions, leeks, spinach, stewed celery, cauliflower, brocoli, Brussels sprouts, asparagus, young cabbages, and such like. From much observation, I am quite confident that fresh salmon, properly cooked,\* with no lobster or other sauce than the water in which it has been boiled, and eaten without

\* Salmon, however, is seldom properly boiled, save on the banks of the River Tweed, or by those who are acquainted with the plan of treating the fish before boiling, and of cooking it, which prevails there. The fish as soon as possible after having been caught, must be "crimped," that is, it must be split up longitudinally along the back, then cut cross-wise into pieces just such a size as to form a portion suitable to help to each guest. When the fish is to be cooked, the water in the fish-kettle, to which twice as much as two conjoined hands can lift of salt has previously been added, is brought to the boil, and the pieces of fish put in, arranged upon the drainer just as they are afterwards to be placed upon the dish. The water is again brought fully to the boiling point, and kept so assiduously by the cook for five minutes. At the termination of that period the fish-kettle is removed from the fire, and the fish taken out upon the drainer. If these details are attended to, the salmon will be boiled to perfection, and will be found not only perfectly digestible, but possessing a delicacy of flavor not brought out by any other method. To boil salmon whole, as is frequently done, is simply to do an injustice both to the fish and to the person who is to partake of it.



potatoes or other objectionable vegetables, in moderate quantity is a perfectly digestible fish, notwithstanding all that has been written to the contrary.\* An occasional warm bath is to be recommended, and some such laxative as a seidlitz powder may be prescribed along with the diet I have indicated. Moderate exercise only should be taken."

The plan of treatment which Dr. Turnbull and James Downie have found so beneficial is one not altogether unknown, though the rationale may be more difficult to explain. Thus Dr. Mitchell Bruce says,† "A copious supply of water increases nutrition up to a certain point, especially the deposit of fat, and is therefore extensively employed in hydro-therapeutics." And again Dr. Thomas King Chambers remarks,\* "Where heart disease is complicated with obesity, especially if the fat is accumulated in the chest, the enforcement of a dry diet is still further to be viewed as imperative, inasmuch as it contributes powerfully to the reduction of the hypertrophied adipose tissue." In all cases a most important point would seem to be the separation of the ingestion of solids and of liquids in regard to time. Thus any liquid should be taken in the interval between meals, and not at the time of or along with solid food. The observation of a dry diet contributes greatly to the comfort of obese patients, and, as has been seen, is in itself a curative.

EPSOM SALTS IN THE TREATMENT OF ACUTE DYSENTERY.—Powdered ipecac is the remedy which is most frequently used in the treatment of acute dysentery, and in India large doses of it are considered the best method of attacking the disease. There are, however, objections to be raised against the administration of large doses of ipecac in this disease. Its influence is depressing, and this action is promoted by the nausea and vomiting, and, further, the vomiting may become uncontrollable. The disease is one which is accompanied by much nervous depression, which it is important not to increase.

After observing a number of cases in which there were marked depressing effects from

ipecacuanha, Dr. A. W. Leahy began treating cases of acute dysentery with a saturated solution of sulphate of magnesium, following a recommendation of Bartholow's, who regards the administration of sulphate of magnesium as the most efficient treatment of this disease, particularly in the acute stage. Dr. Leahy gives a table of nearly one hundred cases treated at Hyderabad among the poorer class of patients, the vitality of many of whom was at an exceedingly low ebb when they came under treatment. Out of ninety-five, three died; two out of these three cases were stated to have been in a moribund condition at the time of their admission to the hospital. It appears that, on an average, two day's treatment with Epsom salts is required to produce disappearance of dysenteric symptoms. The treatment subsequent to the production of this condition consists of an astringent mixture, with opium. The method of administration is to take a sufficient quantity of sulphate of magnesium to saturate seven fluid-ounces of water, and to this saturated solution add one ounce of diluted sulphuric acid. The dose of this is a tablespoonful every hour or two in a wineglassful of water until it operates. Sulphate of morphine may be combined with it, or starch enemata with laudanum may be employed. Dr. Leahy claims that in the earlier stages of dysentery this saturated solution of Epsom salts acts like a charm; fever, if present, disappears; mucus and blood are wanting in the stools, which become copious, feculent, and bilious; the tenesmus ceases; the patient's anxiety diminishes; the skin acts well, and sleep follows the administration of the first few doses. It is especially in acute cases that sulphate of magnesium is so valuable; the more chronic the case becomes, the less apparent are the advantages of this method of treatment. Dr. Leahy has ordinarily given a drachm of this saturated solution with ten drops of dilute sulphuric acid every hour or two until its effects became evidenced in the feculent character of the stools and their freedom from blood and mucus, or until the temperature has fallen, and the pain and tenesmus have ceased. When the stools have become normal in color and appearance, and the patient only passes two or three in the twenty-four hours, an ordinary astringent mixture of acid with laudanum or tincture of

\*Even Dr. Burney Yeo, in formulating some rules of dietary in obesity, which correspond on the whole pretty closely with those laid down by Dr. Turnbull, says, "Eels, salmon, mackerel, are best avoided."—*Food in Health and Disease*, Cassels & Co., 1880.

†*Materia Medica and Therapeutics*. Sixth edition, 1888 p. 151.

Indian hemp, or a pill containing the extract of opium, is usually all that is necessary to complete the cure. It is, of course, imperative to diet the patient with great care. This treatment Dr. Leahy compares with that by ipecacuanha as follows: It has no depressing action on the system, it neither produces nausea nor vomiting; it quiets and soothes the patient. In twenty-seven cases of acute dysentery among Europeans all were successfully cured. It is peculiarly in acute dysentery that the saturated solution of sulphate of magnesium will yield such excellent results. The more chronic the case the less likely is the remedy to prove of value.—*London Lancet*.

**TUBERCULOSIS OF THE LIP.**—Dr. Mackenzie said:—A young colored man, of about thirty-five, four months previous to his coming here, had noticed a small ulcer in the centre of the lip. He had had, prior to that, symptoms of pulmonary and laryngeal trouble: one month after that he noticed another ulcer filling out the angle of the mouth on the right side, that ulcerated slowly and invaded the inner surface of the cheek. He had well marked tubercular infiltration of the epiglottis, and ary-epiglottic folds with tubercular ulceration of both vocal cords. The ulcer was just about the centre of the lip, and was slightly less in size than a quarter of a dollar. It was a more or less granular, oval ulcer, on one side shading off into the surrounding tissues, and on the other side presenting a more or less clearly marked bevelled border. The base of the ulcer consisted of flabby granulations, some of them small enough to resemble small tubercles. The ulcer was covered with a more or less viscid muco-purulent secretion, and presented the characteristic worm-eaten appearance, such as we see in tubercular ulceration of the larynx. The ulcer at the angle of the mouth was similar in character. Delavan, in 1886, brought seven cases of buccal tuberculosis before the American Laryngological Association. At that time he was enabled to collect only 114 well authenticated cases of buccal tuberculosis. Possibly that number might be swelled now to perhaps 150. Of all the cases collected by Delavan, about 50 per cent. were ulcers of the tongue, which seems to be the most common place in

which tuberculosis shows itself in the mouth, at the tip of the tongue most frequently, and next in frequency at the side of the tongue. Out of the 114 cases Delavan found but two cases in which the disease attacked the lips, so that these cases are extremely rare. Bacilli were found in very large numbers in the scrapings from the ulcers, thus indicating the true tubercular nature of the latter. Dr. Welch had seen a specimen supposed to be simply epithelioma of the lip. Microscopic section showed that there was no epithelioma, but that it was exquisite tuberculosis. There were miliary tubercles and diffused tuberculous tissue throughout the base and edges of the ulcerated mass. These cases are enough to show the possibility that cases which have passed for epithelioma of the tongue may occasionally have been tuberculosis.—*Mackenzie in Johns Hopkins Hospital Bulletin*.

**A PLEA FOR THE MORE LIBERAL USE OF BUTTER.**—No dietetic reform would, I believe, be more conducive to improved health amongst children, and especially to the prevention of tuberculosis, than an increase in the consumption of butter. Our children are trained to take butter with great restraint, and are told that it is greedy and extravagant to eat much of it. It is regarded as a luxury, and as giving a relish to bread, rather than as in itself a most important article of food. Even in private families of the wealthier classes these rules prevail at table, and at schools and public boarding establishments they receive strong reinforcement from economical motives. Minute allowances of butter are served out to those who would gladly consume five times the quantity. Where the house-income makes this a matter of necessity, there is little more to be said than that it is often a costly economy. Enfeebled health may easily entail a far heavier expense than a more liberal breakfast table would have done. Cod liver oil costs more than butter, and it is besides often not resorted to till too late. Instead of restricting a child's consumption of butter, I would encourage it. Let the limit be the power of digestion and the tendency to biliousness. Most children may be allowed to follow their own inclinations, and will not take more than is good for them. The

butter should be of the best and taken cold. Bread, dry toast, biscuits, potatoes, and rice are good vehicles. Children well supplied with butter feel the cold less than others, and resist the influenza better. They do not "catch cold" so easily. In speaking of children I by no means intend to exclude other ages, especially young adults. Grown-up persons, however, take other animal fats more freely than most children do, and are besides allowed much freer selection as to both quality and quantity. It is not so necessary to raise any clamor for reform on their account. It may not be out of place to remark that if a greatly increased demand for fresh butter should result from a change of custom such as that suggested, it could easily be met by those concerned. There need be no increase in the cost of the article, whilst at the same time a benefit would be conferred on our home farmers.—*Hutchinson's Archives of Surgery*.

NOTHING NEW UNDER THE SUN.—It is curious to find that, something like the present day, theories of a struggle between the microbes and leucocytes must have been in vogue more than a century ago, otherwise this bit of satirical burlesque could scarcely have been written and played.

*Persons*—The Devil as Hellebore, President of the College; Dr. Last, a new Licentiate; other Doctors and Pupils.

*Hel.* . . . Proceed we now to the lecture! Brethren and students, I am going to open to you some notable discoveries that I have made respecting the source or primary cause of all distempers incidental to the human machine. And these, brethren, I attribute to certain animalculæ of piscatory entities, that insinuate themselves through the pores into the blood, and in that fluid, sport, toss, and tumble about, like mackerel or cod-fish in the great deep. And to convince you that this is not a mere *gratis dictum*, an hypothesis only, I will give you demonstrative proof. Bring hither the microscope!

*Enter a SERVANT with a microscope.*

Doctor Last, regard this receiver. Take a peep.

*Last*.—Where?

*Hel.*—There. Those two yellow drops there

were drawn from a subject afflicted with the jaundice.—Well, what d'ye see?

*Last*.—Some little creatures like yellow flies, that are hopping and skipping about.

*Hel.*—Right. Those yellow flies give the tinge to the skin, and undoubtedly cause the disease. And now for the cure! I administer to every patient the two-and-fiftieth part of a scruple of the ovaria or eggs of the spider; these are thrown by the digestive powers into the secretory, there separated from the alimentary, and then precipitated into the circulatory, where, finding a proper nidus or nest, they quit their torpid state, and vivify, and upon vivification, discerning the flies, their natural food, they immediately fall foul of them, extirpate the race out of the blood, and restore the patient to health.

*Last*.—And what becomes of the spiders?

*Hel.*—Oh, they die, you know, for want of nutrition. Then I send the patient down to Brighthelmston, and a couple of dips in the salt water washes the cobwebs entirely out of the blood.—From Foote's "*Devil on Two Sticks*."  
—*Edin. Med. Jour.*

THALLIN IN TYPHOID FEVER.—Dr. F. Schmidt, in his graduation thesis at Berne in 1889, reports the results which he obtained in the employment of thallin in twenty-two cases of typhoid fever, the remedy being given in doses varying from  $\frac{3}{4}$  to 3 grains in a day, with nothing given at night. The following are his conclusions (*Les Nouveaux Remèdes*, July 24, 1890). (1) The mortality of typhoid fever treated by thallin is less than that obtainable by any other mode of treatment. (2) Thallin, in the doses above mentioned, distinctly reduces the temperature in cases of moderate intensity, but in typhoid fever of extreme gravity this dose is insufficient; it also would seem that the patients support thallin better than cold baths. (3) In general the duration of the disease is not diminished, although this effect would appear to occur in a few isolated cases. (4) No unfavorable secondary action was noted either on the heart or lungs; there was no collapse or irritation of the kidneys; nevertheless, basing his conclusions on the results obtained by other authors, Schmidt advises the withholding of thallin in all cases where renal lesions have been



detected. (5) Thallin maintains a favorable influence on the sensorium in all cases of typhoid fever except those of extreme gravity. (6) Complications and relapses are not prevented by the use of thallin any more than by any other form of treatment. (7) If it is impossible to discover any specific action of thallin on typhoid fever, at least it would appear that certain effects exist which render this action probable. Finally, the author considers the treatment by thallin, in the majority of cases, as in no respect inferior to that of cold baths, and in cases where there is a rapid progress of the disease would even seem superior. After having analyzed the thesis of Schmidt, Butimever adds that he has never observed collapse even after doses considered excessive, even more than  $7\frac{1}{2}$  grains being given. In this amount thallin appears to clear the brain in severe as well as in the milder forms of typhoid fever.—(*Therapeutic Gazette*, September, 1890.)—*Edin. Med. Jour.*

THE PRESCRIPTION OF IRON IN ANÆMIA.—In his interesting articles on Anæmia, Dr. Stephen Mackenzie discusses with some care and anxiety the proportions of alkali to be combined with sulphate of iron in Bland's pill. Let me assure Dr. Mackenzie and your readers that these proportions are of no importance whatever, and that the alkali may be omitted without therapeutical loss and with much practical convenience.

For the last five years of my practice I ceased entirely to use the alkali, and my results were equally good. The mistakes and failures in treating adolescent and chlorotic anæmias are often due to the prevailing economy in the use of the iron. With five, or even ten, grain doses of citrate of iron little real progress may be made in many cases. No form of iron is so efficient as the sulphate, of which gr. j thrice daily is to be given for a week, then two grain doses for ten days, and so on till nine, or even twelve, grains are taken in the day. The drug should be gradually reduced in like manner, and the course should never be less than three months in duration, or relapses may occur. In obstinate cases the addition of  $\frac{1}{30}$  gr. of strychnine, or  $\frac{1}{4}$  gr. of phosphide of zinc are invaluable aids. Most patients require the inclusion of gr.

$\frac{1}{5}$  to  $\frac{1}{4}$  of extract of aloes to prevent the constipating effect of the sulphate, but Dr. Mackenzie rightly denies that constipation is the cause of chlorosis, or even generally coincident with it. This error is due to reasoning from an insufficient number of careful records.

Iron pills should be carefully made from the dried sulphate and not with gums, which by hardening make the pills insoluble. In any case it is better to order the pills to be freshly made every week, if not even more frequently. Patients who are unable to take pills are best treated with the saccharated carbonate of iron, of which three or four large teaspoonfuls may be given in the day.—*T. Clifford Allbutt, in The British Medical Journal.*

FLEINER ON THE DIURETIC ACTION OF CALOMEL IN RENAL DROPSY.—The general opinion that calomel is contra-indicated in renal dropsy is founded on the assumption that the drug acts on the epithelium of the kidney. When, therefore, the epithelium is considerably affected or partly destroyed, as in so-called parenchymatous nephritis, the mercury, by acting on the already weakened and scanty epithelium, would, presumably, do little good and possibly much harm. Rosenheim's experiments seemed to prove the truth of this theory. Fleiner, however, has found that facts are somewhat opposed to the general belief. Two years ago Professor Erb gave a lecture on calomel as a diuretic, and mentioned a case of chronic parenchymatous nephritis with general dropsy, in which, after all the customary diuretics and diaphoretics had failed, the œdema rapidly gave way under the calomel treatment, and the patient finally left the hospital with scarcely any appearance of anasarca. Fifteen months later she appeared again, and stated that all the intermediate time she had been able to work, and had not had dropsy to any great extent. Her disease now presented the characteristics of secondary contracted kidney. This case made its due impression on Fleiner, then a student under Erb, and the case he details here with extraordinary preciseness and lengthiness is, so to speak, a twin of Erb's. The case was one of Bright's disease, threatening death from advanced dropsy. All other remedies proving useless, calomel was exhibited

in large doses, and on two occasions in a few days caused a marvellous improvement, the second time the cedema completely vanishing. Here, as in Erb's case, the patient, after the second treatment with calomel, had, as proved by his urine and the post mortem (he died suddenly two months after), a contracted kidney, chronic parenchymatous and interstitial nephritis.—*Berl. Klin. Woch.*

**TREATMENT OF THE DIARRHŒA OF CONSUMPTIVES.**—Polyak reports the results obtained by him in the treatment of diarrhœa of consumptives with silicate of magnesia (in the form of talc) proposed by Debove, and lactic acid proposed by Sézary e Aimes. About 250 grammes of talc were administered in 500 grammes of milk. As a general rule diarrhœa ceased after some days, but reappeared as soon as the remedy was discontinued. Patients preferred milk mixed with talc to ordinary milk, but it was found impossible, nevertheless, to prolong its use beyond six or seven days, as patients complained of a sense of oppression in the epigastrium. The author does not believe that a cure of the intestinal ulcers can be produced by prolonged use of talc. The results were more favorable with lactic acid. He began with 1 gr. 80 of lactic acid in 120 grammes of milk; the dosage was gradually increased until 4 gr. 50 were taken per diem. As early as the third day the diarrhœa and pain had disappeared, and one or two days later the motions had become natural. It was thought well to continue the drug in small doses for some time after the cessation of diarrhœa. The patients bore lactic acid well; no troublesome secondary symptoms were observed unless the drug was used too long. Dr. Polyak believes that, thanks to the lactic acid treatment, we can even look forward to the cure of intestinal ulcers.—*Courrier Méd.*, 1890. *L'Union Médicale*, Nov., 1890.—G.A.F.

**PYOKTANIN IN THROAT AFFECTIONS.**—Basing his experiments on the work of Stilling with regard to the employment of the aniline dyes as antiseptics, Bresgen tried pyoktanin (methylene blue) in eighteen cases in which he had cauterized the nasal mucous membrane, in order to lessen the inflammation and suppuration after the operation. Methylene blue tablets were

used to make a solution of 2 : 1000. Immediately after cauterizing, the mucous membrane was painted with absorbent cotton saturated with this solution. The result of this treatment was to diminish the inflammation and pain: but suppuration, although diminished, was not completely avoided. In several retro-nasal affections, pyoktanin, employed after cauterization, seemed to stop the purulent secretion quicker than the ordinary treatment. In a case of abundant secretion coming from the posterior wall of the larynx, painting, by means of absorbent cotton saturated with a solution of pyoktanin, is said to have diminished considerably the formation of dry crusts.—*Journal de Médecine de Paris.*—G.A.F.

**GRAVE ANÆMIA CURED BY RECTAL INJECTIONS OF SALT WATER.**—In a case of grave anæmia occurring after delivery, O. Heer tried ergot stimulants brandy, coffee, etc., without success. Rectal injections of tepid salt water were then tried, five grammes of salt being used for a litre of water. Two litres were injected; a great part was absorbed. The pulse improved, and the general condition ameliorated. Some hours later a second collapse. Rectal injection was again resorted to, and final success obtained.—*Revue Méd de la Suisse, Romande*, 1890, No. 6.—*Lyon Medical.*—G.A.F.

**FIBRIN AS A PERMANENT PACKING AFTER OPERATIONS FOR STRUMOUS AFFECTIONS.**—Professor Kraske (Freiburg), rather than aim at union by first intention in such cases, would pack the wound, and has found fibrin impregnated with iodoform to be most suitable, destroying any remnant of tuberculous matter, and permitting good results as regards functional usefulness after operation. The wound must be carefully dried and the packing pressed into every corner of it. The dressing is changed after four or five days, and then again when healing has occurred. The method of preparing the fibrin is described. Professor Kraske has also employed muscular tissue for the purpose.—*Beitrag zur klinischen Chirurgie.*—*Edin. Medical Journal.*

Quinine is now worth the small sum of 25 to 30 cents an ounce.

# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, APRIL 1, 1891.

## MEDICAL HEALTH OFFICER OF TORONTO.

At last, after many weary months, Toronto has found a Medical Health Officer. Considerable interest has been manifested in the matter, a good deal of canvassing has been done, and the result shows that the unexpected has happened, as is so frequently the case; and, in the language of the sporting fraternity, "a dark horse has won." As will be seen in our personal columns, the new officer is Dr. Norman Allen, a young graduate who has been practising in Toronto for about four years. As to his fitness for the position, we know but little. His record thus far has been creditable as a student and a practitioner. While in England he paid some attention to the study of hygiene, though perhaps not so much as one of the candidates for the position.

Probably it is safe to say that Dr. Allen would not have been the choice of the majority of the profession of Toronto, simply because his capacities are, to a certain extent, an unknown quantity, especially as to administrative abilities. He has, however, many friends and practically no enemies. He is likely to enter upon his duties with the sympathy of the mass of the profession and the general public. We hope and believe the physicians of the city will cheerfully support him in his heavy undertaking. The loyal support of his professional brethren would be an immense assistance to him in various ways, and there is every indication that he will receive it.

The appointment is one of the most important that has ever been made in Toronto. The salary is too small. This fact has been felt

rather keenly by the profession. The new officer has an opportunity to make for himself a great reputation. The responsibilities will be heavy, but the possibilities of distinction are great, and if he rises equal to the occasion he must, in time, receive proper remuneration for his work. We cheerfully extend congratulations and wish Dr. Allen success in the highest degree.

## THE SPRING EXAMINATIONS.

This is a busy and anxious time for medical students. The dreaded examinations are at hand, and the results of the same are, for the time being, the all-important consideration for the trembling candidates. It is unfortunate that some of the examinations should commence as early as the middle of March. The sessions, as prescribed, are surely short enough; but when large portions are deducted from both extremities and the centre, they occasionally become abbreviated to a rather alarming extent.

Are the certificates of attendance from some of our medical colleges absolutely worthless? Are they sometimes positively dishonest? Are students sometimes registered after Christmas—say about the middle of January—with the assurance that they will receive certificates for attendance on lectures for a full session, when in reality it is not possible to attend longer than about two months?

Perhaps the Medical Council, in deliberating on changes in their curriculum, might consider the question of bogus certificates. But rumors say that members of the Council have a pretty good idea that such irregularities do occur, and are inclined to ignore such trifling matters. This is not altogether correct, as they have endeavored to put a stop to such dishonesty, of which both the authorities and students of some colleges are guilty, by requiring from candidates statements under oath respecting their attendance during the different sessions. Either the form of declaration is at fault, or some of the students are guilty of rather serious offences against the laws.

## THE WATER SUPPLY OF TORONTO.

The grumblers in our wonderfully prosperous city, if other things fail, can always fall back on the subject of the water supply. Many thou-



sands have a very intimate knowledge of all the intricacies connected with the subject, and various are the schemes brought forward from time to time by these wise people. The favorite fad just now appears to be the gravitation scheme from Lake Simcoe. All you have to do is to bore a hole down hill to Toronto, Simcoe water will fill the hole, and everything will be lovely.

We have no objections to raise against the general features of this scheme, but there are some simple facts in connection with this question which may be worth consideration. We have a lake called Ontario, which is quite as large and quite as close to Toronto as Simcoe, and contains wonderfully pure water. The analyses by Dr. Ellis, as mentioned in Dr. Oldright's admirable paper of this issue, show that Ontario water contains less organic matter than Simcoe. We have a system of water works which at present is not perfect. Shall we spend a few hundred thousand in perfecting this system, or shall we throw an unknown number of millions down the long hole?

## Meeting of Medical Societies.

### TORONTO MEDICAL SOCIETY.

February 19.

The President, Dr. Spencer, in the chair.

Dr. Holford Walker presented a specimen of

#### A VERMIFORM APPENDIX REMOVED BY OPERATION.

The appendix, three inches in length, was removed from a lady who had suffered from four or five recurrent attacks of perityphlitis. When she came to the hospital a hardness could be felt in the right inguinal region. At the operation for removal, the appendix was found adherent to the adjacent bowel, and a small pus sac existed close to it. The greater part of the appendix was cut off, and the remainder was tucked in and sutures inserted. The patient made a good recovery, and is in good health.

Dr. McPhedran stated that operative interference in appendicitis in the quiescent stage was no longer advocated by authorities, provided that inflammatory effects pass off entirely, leaving no thickening, etc. He cited a case of recurrent typhlitis which was not operated upon, and on

patient's death (from some other cause) the appendix was found perfectly normal. An objection to the operation is that the appendix cannot always be found easily, and its anatomical relations vary considerably.

Dr. J. F. W. Ross referred to a discussion he had recently heard at Albany on the question of operative interference. Deaths have occurred because of perforating appendicitis where operation would have saved life; the physician is too apt to hold his hand. Indications for the operation are when the patient is suffering from general peritonitis (appendicitis being suspected as the cause), and is doing badly; after twelve hours a surgeon should be called in to operate.

Dr. Machell, Dr. Peters, Dr. Greig, and Dr. Spencer, discussed the cases further, and Dr. Walker stated in his reply that, in his own experience, he remembers patients who have died and in whom he believes now an operation would have saved life.

Dr. Walker also presented a specimen of a

#### CYST OF THE OMENTUM.

The patient from whom the specimen was procured had a tumor in the groin simulating a femoral hernia: there was impulse on coughing. At the operation a piece of omentum was found in the crural canal, and what appeared to be a piece of bowel, but which subsequently was found to be an omental cyst. The whole was removed, and recovery was uninterrupted.

Dr. Gordon presented a specimen of an

#### ABDOMINAL CYST IN A NEW-BORN CHILD.

The following history was narrated: A woman, apparently in normal labor, vertex presentation, was attended by Dr. Bentley; as delivery was protracted the forceps was applied, and the head pulled away from the trunk with but slight traction. The arms were in a similar manner severed from the trunk, traction being made upon them. Dr. Gordon, who saw the case at this stage, introduced his hand into the vagina and uterus, and in doing so penetrated the wall of a cyst, from which poured about twelve quarts of fluid, clear in color. The rest of the child was then easily delivered. There was found to be a large cyst distending the abdomen of the child, extending up to the umbilicus and the diaphragm, and involving the uterus and bladder. There was apparently no urethra present.

In cases of a similar character recorded, the uterus and bladder were involved.

Dr. Bently related some further details of the case.

Dr. J. F. W. Ross presented a specimen of an

#### CEDEMATOUS MYOMA.

It was multinodular and presented one very peculiar excrescence on the surface, the size of a walnut. It was a myoma of the broad ligament. Tait says that these myomata are always single; this specimen, however, shows that the statement is incorrect, and that multinodular myomata may become cedematous. The cavity of the uterus was large enough to admit three fingers, and was full of nodules, but no hemorrhage had occurred.

Dr. Atherton presented a specimen of a

#### DERMOID CYST OF THE OVARY.

The tumor had been removed from a girl twelve years of age. The swelling had extended to the umbilicus; the symptoms were chiefly pain. At the operation several openings in the sac were found and some points sphacelated, this accounted for an attack of peritonitis which she had had four days prior to operation. The tumor had been examined microscopically by Dr. John Caven, who found almost every tissue of the body represented, cartilage, hair, etc.; parts of the tumor were pigmented.

February 26th.

The President, Dr. Spencer, in the chair.

Dr. Doolittle narrated a case of

#### APPARENT DEATH IN THE NEW-BORN.

There had been a breech presentation, and all the body was born, save the head, when Dr. Doolittle first saw the patient. He does not know how long the trunk had been born before his arrival. The head was delivered three or four minutes after. The woman had not felt foetal movements for three days. At first it was thought that the child was dead, but the heart was observed to be beating, and artificial respiration was at once resorted to, and the child resuscitated. The hands remained dark and almost gangrenous-looking for twenty-four hours, but after that they gradually became of good color, and the circulation became well established.

Dr. B. E. McKenzie narrated the history of a case of

#### SPONTANEOUS DISLOCATION AT THE HIP.

A woman, æt. 22, was getting into bed, when she was suddenly seized with pain in the hip, so severe that chloroform had to be administered before she could get to bed. For some weeks she suffered from pain, and lay with flexed knee; the deformity could, however, be entirely corrected under chloroform. Dr. McKenzie was called to the patient at this juncture; he found, under chloroform, a posterior dislocation of the head of the femur. It was easily reduced, and was then placed on a splint, and kept fixed for some weeks. She is now (three months after reduction) walking, but not as well as she would have done had it been a simple dislocation.

Dr. Spencer narrated a case of

#### POISONING BY ANTIFEBRIN.

A child, five years of age, had swallowed in mistake a drachm of antifebrin. He became very blue and respirations slow. Stimulants were freely given, hot bath etc., and the child recovered. The antifebrin had an excellent effect on the whooping cough, for which it had been prescribed in this case, in doses of three grains each.

Dr. J. M. Macallum stated that this case demonstrates the fact that children are less susceptible to antifebrin than adults.

Dr. Nesbitt said that recently a fatal case of poisoning by antifebrin had been recorded in the journals. As regards treatment of poisoning, the application of cold might have proved beneficial, as it does in poisoning by antipyrin.

Dr. N. A. Powell gave a most interesting demonstration of photographing office patients by flash light.

March 12th, 1891.

The President, Dr. Spencer, in the chair.

Dr. Britton exhibited a mulberry calculus, which he had removed from a boy ten years of age by the operation of

#### SUPRAPUBIC LITHOTOMY.

From the age of two the boy had suffered from irritability of the bladder, and there had been great pain during micturition for two years prior to operation. Dr. Britton passed a sound into the bladder, and detected a stone. An operation was advised and agreed to by the parents. It was thought wise to resort to the suprapubic method of reaching the bladder; the boy was

fat, the perineal operation would therefore have necessitated a deep wound in a narrow space, and it was consequently deemed simpler and safer to open the bladder above the pubes. A double-canula silver catheter was passed into the bladder and the viscus washed out; fluid was then injected in order to distend the bladder, and this was retained by fixing a cork in the mouth of the catheter. The point of the catheter could be made to protrude above the pubes, so that it could readily be felt through the anterior abdominal wall. The bladder presented so prominently above the pubes that distension of the rectum was unnecessary in this case. There was no difficulty in reaching the bladder and removing the stone. The bladder was found healthy; sutures were inserted in the bladder wound, and the viscus was closed in this way by accurate adaptation of the sides of the incision. The soft catheter was passed by the urethra and fixed in position.

All went well until the fifth day, when the boy suffered extreme pain, and when Dr. Britton called at night he found that no urine had been passed all day. One of the external sutures was removed, and immediately urine spurted out with such force that it struck the ceiling, so great had been the tension. The sutures were then all removed and the catheter was reintroduced and fixed in the bladder; a competent nurse was employed and subsequently the patient made an uninterrupted recovery. On the 13th day the catheter was removed, and thereafter the boy passed water entirely by the urethra. In speaking of tying a catheter in the bladder, Dr. Britton stated that the catheter should be made of soft rubber; the gum-elastic catheter causes irritation, and is objectionable on that account. The suprapubic method of opening the bladder has been alternately advocated and condemned by authorities for many years. Sir Henry Thompson speaks highly of it, and Gross refers to it as the operation of the future.

Dr. King advocated draining the bladder by a perineal incision into the membranous urethra after the operation of suprapubic cystotomy.

Dr. Primrose referred to the danger which existed in cutting down upon the point of an instrument introduced by the urethra and made to protrude above the pubes. Whenever the slightest opening is made into the bladder, the

fluid escapes, the bladder walls collapse, and, in doing so, cling to the end of the instrument. The cellular tissue in front of the bladder is much disturbed by such a proceeding, and this favors the production of urinary infiltration. With regard to the suturing of the bladder wound, Dr. Primrose stated that sutures should only be introduced in those cases in which there had been no laceration of the edges by the extraction of a rough or large calculus and where the bladder wall was healthy.

Dr. Powell and Dr. MacDonald also took part in the discussion, and Dr. Britton, in reply, stated that although the catheter was used as a director, it was not cut down upon in the manner indicated by Dr. Primrose; the point was withdrawn from the bladder wall, two sutures were introduced and the incision made between them. Dr. Britton's reasons for preferring the suprapubic to the lateral operation were because the perineum was deep and narrow, and in these cases in children there exists also the danger of transverse tear of the membranous portion of the urethra.

Dr. Acheson narrated the history of a case of

#### FOREIGN BODY IN THE CHEST WALL.

A piece of lead-pencil three inches long was exhibited. The patient was a boy who was hemiplegic, and on November 8th he fell upon the paralysed side and stated that he had driven a lead pencil into his chest. Nothing could be seen on the surface but a small opening like a bullet wound, in the axillary line between the eighth and ninth ribs. Dr. Acheson enlarged the wound and examined the cellular tissue in the neighborhood, but could detect nothing. The wound was stitched up, dressed antiseptically, and it healed kindly. On November 25th, Dr. Acheson was sent for and told that the pencil was coming out; he found the point protruding in the back, just to the left of the mid-dorsal spines. The pencil, which was lying in a suppurating sinus, was removed; the sinus was washed out, and it healed nicely. The question was, where was the pencil in the meantime? It must have been concealed under the ribs, as a careful search was unsuccessful in detecting it at the time of the accident.

Dr. Britton referred to a child who drove a slate-pencil into the cheek. It could not be detected on probing, but two weeks after the



accident it was found protruding in the mouth and was removed.

Dr. A. F. McKenzie related the history of a young man who, sliding off a load of hay, alighted on the handle of a hay-fork, which entered the scrotum and penetrated his body, burying a portion of the fork-handle as long as one's arm in the man's body: it was withdrawn immediately. Dr. McKenzie, on examining him afterwards, found the wound in the scrotum, and could detect the track of the fork-handle up over the anterior abdominal wall as high as the ribs. This track subsequently suppurated, and a piece of cloth, evidently part of the man's trousers, was removed from below the ribs. The man recovered.

Dr. Spencer narrated the case of a man who ran a lead-pencil into the axilla. The wound healed, but subsequently a swelling appeared under the clavicle, and in this swelling a distinct and loud bruit could be heard; this bruit was transmitted and could be heard in distant parts of the body. The condition was one of aneurismal-varix, produced by a simultaneous wound of the axillary vein and axillary artery, and a subsequent inter-communication between these vessels.

Dr. Powell asked if it were not possible that the lead-pencil in Dr. Acheson's case passed around in the cellular tissue superficial to the ribs.

Dr. Acheson replied that had it been in the position indicated by Dr. Powell he would surely have detected it during the careful examination he made of the patient on the occasion of his first visit.

Dr. W. H. B. Aikins presented a specimen of  
PYOSALPINX.

The patient, a married woman, had suffered from dysmenorrhœa, and the cervix had been dilated by the rapid method. The following day she had a high temperature, and on the fifth day died of peritonitis. On *post mortem* examination it was found that she suffered from pyosalpinx, and a small cyst near the ovary had ruptured, causing the fatal termination. Dr. Aikins was of opinion that the operation on the cervix had nothing to do with the cause of death.

Dr. Noble narrated the history of a case of  
HÆMATOMA OF THE SCALP,  
which developed in a child two days after birth

## GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

January, 1891.

The President, Dr. Henry M. Wilson, in the chair.

Dr. W. P. Chunn related an instance of  
APPARENT GROWTH OF THE PLACENTA AFTER  
LABOR.

The patient was 28 years old and had been married five years. She had had no children at full term, but had had three miscarriages. The first and second miscarriages occurred at about the fourth month of gestation. The last miscarriage occurred about May 10th, 1890. She had missed one period, and believed herself to be about six weeks pregnant. On the 10th of May she began to have bearing-down pains and hemorrhage, with the expulsion of blood clots, lasting some three or four days. Then the pain subsided, the hemorrhage ceased, and I regarded the uterus as empty. On the 12th of June, however, she was again seized with violent pains, and during the night was delivered of a placental mass larger than a man's fist, which I saw next morning. The patient, as well as myself, was surprised. The foetus was searched for but no sign of it found.

Dr. Thos. A. Ashby: I have seen a somewhat similar case. The patient began to have hemorrhages about the sixth week of gestation. She was not under my care at that time, but I was called in four weeks subsequently, and she was then in the act of throwing off the foetus. At the time of its removal, the foetus was apparently at the sixth or seventh week of gestation, and partly decomposed. The placenta was not affected by decomposition.

Dr. G. W. Miltenberger: I have known the whole ovum to be retained for months after the death of the foetus. In a recent case the contents of the uterus were not thrown off till full term, though the foetus was dead at the third month.

Dr. L. E. Neale: I think it is very unfortunate that the specimen is not presented. The placenta is not developed at the sixth week of pregnancy. I see nothing in the history of the case opposed to the belief that it was a very ordinary case of abortion (not miscarriage) with escape of the embryo, and more or less com-

plete retention of the sac, chiefly chorion, that might have been removed by the curette long before it was ultimately expelled.

Dr. L. E. Neale read a paper on

#### THE INDICATIONS FOR CÆSAREAN SECTION.

This paper is intended to stimulate interest in and discussion of the subject, Cæsarean section versus craniotomy on the living child. Craniotomy upon the living fœtus is believed to be justifiable, but only as a dire necessity, not as an elective procedure, and should not be resorted to where there is a reasonable probability of success by the section.

If seen early enough, the induction of premature labor at the 32d to 34th week by the method of Krause was a very strong antagonist to craniotomy upon the living fœtus. The range for this operation should not extend to a conjugata vera below  $2\frac{3}{4}$  inches (7 cm.), or to one above  $3\frac{1}{2}$  inches (8.75).

The indications for the conservative section included all insurmountable obstructions to the delivery of the living and viable child per *vias naturales*. They include: tumors; pelvic exudations; hypertrophic elongation of the cervix; cicatrises; stenoses; tetanus uteri; falliform uterine contractions, etc. He believed general opinion placed the limit for the absolute indication at a conjugata vera of  $1\frac{1}{2}$  inches, or 3.75 cm., and the relative indication extended from that point up to an undermined conjugata vera measurement, and included many other conditions besides pelvic contractions. Other things being favorable, a  $2\frac{1}{2}$  inch, or 6.25 cm., conjugata vera (Harris), 3 inch, 7.5 cm., conjugata vera (Lusk), called for section rather than craniotomy, but he warned against relying entirely upon pelvimetry in the relative indication.

Intracted pelvis he preferred version to forceps when both were practicable. He insisted upon pelvimetry, and briefly outlined the methods. He believed it was chiefly by this means we could determine the indications for the section.

A conjugata vera of 3 inches, 7.5 cm., was generally admitted to be the least through which a living child of normal proportions could pass, and as Lusk maintained, if other diameters were lessened, or the contraction was not limited to the brim, it might require a conjugata vera of  $3\frac{1}{2}$  inches, 8 cm., or more.

No hard and fast line could be given: each case must be judged alone. The relative size of the head, its resistance, the past history, the uncoerced consent, the general conditions and surroundings of the patient, etc., were all important factors in the relative indication.

The life of the child was not "purely impersonal and scientific," but eminently personal and practical, and he believed the mother should run a reasonable risk in its interest. The life-saving of craniotomy could never be as great as that of Cæsarean section, for it started with a necessary mortality of 50 per cent. or half the lives at stake. But aside from all argument and comparative statistics, the section was decidedly restricting craniotomy. All depreciate the repeated performance of craniotomy on the same woman. He accepted Carl Brann's rules for the relative indication.

Craniotomy was safer for the mother than section, but piecemeal extraction was equally if not more dangerous. Ex. 92, conjugata vera  $2\frac{1}{2}$  inches, 6.28 cm., or less.

If conservative delivery per *vias naturales* had been attempted and failed, this was a strong point in favor of craniotomy and against the section under these increased dangers.

He strongly depreciated conservative tampering and then resorting to the section. Many lives had been thus sacrificed. If we desired success, we must make the section an elective operation, and not a procedure of dire necessity.

Dr. Miltenberger: With regard to the paper of Dr. Neale's, confined as it is to the indications for the Cæsarean section, there is nothing which I would controvert. The confusion and discrepancy of opinion have arisen from want of definiteness and clearness as to the relative indications. If we take the statistics of craniotomy generally, including all cases, we get no positive resulting data to guide us.

Where the pelvis is so constructed as to necessitate the piecemeal extraction of the fœtus, it is recognized undoubtedly as the most serious of obstetric operations, and more dangerous than the Cæsarean section. Where, on the other hand, craniotomy is required, the operation is simple and the danger to the mother in proper hands should not be greater than from the application of the forceps.

Now it is just in this latter class that the doubt

arises. The smallest conjugata vera diameter through which a living child has been expelled is 3 inches, or as has been claimed  $2\frac{3}{4}$ , but with this we cannot expect to save the child through the natural passages. But whether with this or a little more available space, we must recognize the prime and absolute importance, as the doctor states, of pelvimetry, and to its thorough practical study and application must we mainly look for increased certainty. Especially does this hold as to external pelvimetry, the best instrument by far being the hand of the obstetrice.

Now, while it is true the measure here of the conjugata vera by the finger may not be perfectly accurate, and we require also to learn the available space in the transverse diameter, yet with care it sufficiently approximates the truth for our purpose. But, on the other hand, as the doctor has said, we cannot accurately determine the size of the child's head, its degree of ossification, etc. It is true that by bimanual examination we can approximate the truth, but not exactly obtain it. I have known an accomplished accoucheur persist for a long time in the use of the forceps before he recognized that he was dealing with a hydrocephalic head. Thus both the factors have elements of uncertainty. It is just in this class of cases that the doubt and uncertainty arises.

When the practical obstetrice meets with a case of dystocia from this cause, by internal measurement he satisfies himself as far as possible that he has 3 inches of available space in the conjugata vera, or even above this; without a full knowledge of the size of the foetal head, he naturally applies the forceps or proceeds to turn and not improperly; but if he fails, he has already violated the first fundamental law in Cæsareotomy, to resort at first to the knife without any previous operative manipulation. If such manipulation has been at all prolonged, the choice is not between craniotomy and Cæsarean section, but between craniotomy and a Porro.

Fortunately, pelves contracted to this extent are rare in this country, particularly in the higher walks of life.

The operation of Cæsareotomy is in itself sufficiently simple, and the modern section is undoubtedly one of the greatest advances in

modern obstetrics, while its success constitutes a brilliant epoch in our recent history. In the hands of those skilled in its technique, and taught and trained by experience, there is every reason to trust and believe that the modern Saenger will extend still further its successes; and that as an operator gains tact and knowledge with every case with which he deals, and as a part of his success must depend upon his absolute command of his patient and her surroundings, it is most likely the old picture will be reversed, and with our aseptic and antiseptic precautions, hospitals will offer a smaller rate of mortality than private practice.

Fully realizing, as I do, the success of the modern Saenger, and the lessened mortality rate which has been achieved, yet we know that no abdominal section is entirely free from danger, and I am therefore forced to the opinion that Cæsarean section will not completely supplant the old operation, and that there still remains a field, although markedly limited, for craniotomy on the living child.

Dr. J. Whitridge Williams: I am sure that all of us are greatly indebted to Dr. Neale for the very clear manner in which he has set forth the indication for the operation, and I almost entirely agree with him.

The absolute indication I would place at 5 to  $5\frac{1}{2}$  cm., or 3 inches, and the upper limit for the relative indication at  $7\frac{1}{2}$  cm., or 3 inches. Within these limits, unless the child be abnormally small, there should be no question as to the use of forceps; and the question to be decided is whether craniotomy or Cæsarean section should be done. Theoretically, I would choose the section in all cases that appeared favorable; but, practically, I might waive my theory in the case of a primipara which had not been examined previous to labor, for in that case it might appear very hard to submit a young woman to such a risk without any previous intimation of her danger.

But if I performed craniotomy under these circumstances I would warn her that in becoming pregnant again she would take the responsibility of the child's life upon herself, and that I would refuse to perforate in subsequent pregnancies.

The mortality of the operation need not dismay us, for Munchmeyer has lately reported



the latest statistics of Leopold, in which he reports 28 Saenger operations with the loss of three mothers and one child, and 7 Porro operations with no maternal deaths.

Dr. B. B. Browne: I had a case recently upon which I did Cæsarean section. The woman was 27 years of age; she had had one child; her labor was two years ago, when she had convulsions, and a ovariectomy was done. As a result of injury received at this time, the uterus sloughed, and there was complete atresia of the vagina. This atresia was afterwards opened up, and she became pregnant. The vagina was contracted by cicatricial bands, and an opening could be felt in the side of the cervix, but to the left of the opening was a cup-shaped cavity which might have been the old cervix.

She was not sure of the time of impregnation; she was swollen, and her urine solidified with albumen upon heating; labor pains began Dec. 20 and continued for one or two days, but there was no dilatation. She came to the hospital Dec. 22; she had severe uterine contractions that day, and came for the purpose of having Cæsarean section done, but next day the pains had all gone; the night of January 1st the water broke, and severe pains began. The cicatricial bands about the cervix were cut, and Elliot's forceps were introduced. Both blades of Tarnier's forceps could not be gotten on. After several efforts I concluded that she could not be delivered in that way. In the morning the foetal heart was distinct; in the afternoon it was feeble.

The section was made without difficulty; the placenta was attached in front; the child could not be resuscitated; the placenta was readily detached, and the uterus was cleaned out and closed by the Saenger method. The operation was done on Friday, and the patient did well until the following Tuesday, when she sank rapidly and died in a few hours.

The woman had grave kidneys disease, and had little chance of recovery on that account.

In this case several things are to be considered: 1st, the woman was perfectly willing for the operation; 2nd, her life, from the condition of her kidneys, was not insurable, and the child had a good chance of living; 3rd, she had much difficulty in the former craniotomy, and barely escaped with her life.

Dr. Ashby: I have had the good fortune to witness two Cæsarean sections. One, the case of Dr. J. G. Jay, of this city, several years ago, and the recent case reported by Dr. Browne. I was impressed with the ease with which the operation can be done. Its mechanical execution is certainly much less difficult than that necessitated by many intra-abdominal operations. Hemorrhage is easily controlled, and the closure of the uterine wound is not a difficult undertaking.

In the case of Dr. Jay, the mother made a prompt recovery, and the child perished simply because of the unavoidable delay which was experienced before an attempt at the removal was made. Its death had, in my opinion, no relation to the operation, but to causes which antedated the section. I am convinced that in the case of Dr. Browne the child could have been saved had no other method of delivery been attempted. The section, I think, bore no relation to its death. In this case the operation was skilfully done, and I am inclined to believe that the mother's death should be assigned chiefly to her kidney complications. She was a bad subject but bore the section well.

My opinion of the Cæsarean section is altogether favorable. It has come to stay, and with an improved technique and larger experience will be approached with less hesitation.

Dr. Neale: As no points were raised against the paper, I have nothing to say in its defence. I did examine Dr. Browne's case, and told him in my opinion it was no case for the section. The chief obstruction was in the soft parts, that in the pelvis was very slight, if any. I thought it possible to deliver the child alive per *vias naturales*, but was sure it could be readily extracted after craniotomy. Owing to the kidney complication, the mother was in a most unfavorable condition for the section, and for that matter the child also, therefore I advised against this operation.

However, after once beginning a conservative delivery per *vias naturales*, which was persisted in too long (30 min.), I certainly never should have resorted to the section in that case, with both child and mother in the then most unfavorable condition, but would have delivered at once by craniotomy.

## Hospital Reports.

### A CASE OF HEPATIC ABSCESS—OPERATION—RECOVERY.

UNDER CARE OF DR. LACHLAN M'FARLANE, IN  
TORONTO GENERAL HOSPITAL.

(Reported by L. F. Barker, M.B., House Surgeon.)

Considering the comparative rarity of abscess of the liver in individuals who have never lived in a tropical climate, together with the fact that abscesses so occurring are, as a rule, secondary to dysentery, a brief description of the following case may be of interest:

E. B., æt. 46, born in England, admitted to Toronto General Hospital, Dec. 17th, 1890, under care of Dr. McFarlane. He had lived in England 24 years, since then in Canada; occupations various, farming, railroading, hotel-keeping, etc.; always reckless and dissipated; often exposed to cold and wet. He has never been farther south than Bos'on, he has never had dysentery; has taken alcohol to excess; nine years ago he had dropsy of peritoneum, the abdomen was of immense size, and it was tapped once. Family history, negative. After admission, the patient was deprived of stimulants, and continued delirious up to Jan. 7th, 1891. The temperature varied from 99° to 103.5° at this time, without obvious cause. This condition continuing, pus formation was suspected, and careful physical examinations made repeatedly. Finally bulging in right side below ribs was noticed, and by Feb. 10th this swelling extended as low down as the umbilicus; complete dulness on percussion existed over the enlargement. The tumor moved with respiratory movements, but not freely. One of Dieulafoy's aspirating needles, being introduced, discovered pus. There existed, in addition, probably cirrhosis of liver, some pulmonary emphysema, and slight cardiac hypertrophy. Mentally, patient was weak; sometimes talked to himself. (The above notes have been epitomized from the clinical history of the case taken by Mr. S. D. Day).

On Feb. 11th, 1891, at 3.30 p.m., Dr. McFarlane operated as follows:—The patient was prepared in the usual way for abdominal section. Chloroform narcosis; an incision 7½ cm. long was made below the margin of the ribs and parallel to them. The liver was found

adherent to the abdominal wall. A free opening was made into the parenchyma of the organ; about one litre of yellowish-white pus was evacuated. Two drainage tubes were passed to the bottom of the wound after thorough irrigation with a hot solution of boric acid, 1-20. The skin edges were approximated by silk sutures; a large dressing of bichloride gauze and absorbent cotton was applied.

*Progress of Case.*—Considerable hemorrhage occurred through the night. The dressing was changed at 12 p.m. The cavity was washed out with hot boric acid solution, and dressing, as before, applied. Feb. 14th: the dressing was changed for the fourth time. Discharge now greenish-yellow. Feb. 15th: On changing the dressing one found very little pus, but abundance of bile and mucus. In the drainage tube a gall-stone was found weighing 1½ grains. Feb. 16th: Drainage tubes removed. Cavity packed with iodoform gauze. Feb. 20th: Wound has been dressed daily since the 16th. Since that time the patient has been taking syrup of the iodide of iron and cod liver oil, with nutritious diet. The temperature has been natural since the operation. Feb. 21st: Today the patient developed facial erysipelas and was removed to the isolation wards. March 4th: Erysipelas gone. The wound granulating nicely; discharge diminishing. March 17th: The wound is healed. General strength improved. Patient will soon be discharged.

*Remarks on the Case.*—Examination of the pus collected in a sterilized tube revealed numerous groups of staphylococci. Smear cover-glass preparations stained in the Hospital Clinical Laboratory with Gram's method showed as many as twenty of the grape-like bunches in one field (Leitz syst. 7, ocular No. 4). No cultures were made. The cocci stained well with Loeffler's alkaline blue.

Since the patient had never suffered from dysentery, and had never travelled in tropical regions, one necessarily would be somewhat puzzled in deciding upon the exact infection-attribut. The finding of the gall-stone, however, clears up the case. This body, becoming impacted in a bile-duct, had led to ulceration and necrosis from pressure, together with decomposition of the retained bile, the micro-organisms ascending through the common duct from the interior of the intestine.

## Book Reviews.

*Principles of Surgery.* By N. Senn, M.D., Ph.D., Professor of Surgery, Rush Medical College, also the Polyclinic, of Chicago; Surgeon to the Milwaukee Hospital. Illustrated with 109 wood engravings. Philadelphia and London: F. A. Davis, Publisher.

Dr. Senn has been for years recognized as one of the ablest of modern surgeons, and the announcement that he was writing a book on the "Principles of Surgery" created much interest. Those who have the opportunity to read it are not likely to be disappointed. The author has endeavored to write "a systematic treatise on the causation, pathology, diagnosis, prognosis and treatment of the injuries and affections which the surgeon is most frequently called upon to treat," and we can say without hesitation that he has been eminently successful. It is a most admirable work in all respects, and should be in the hands of every senior student, general practitioner and special surgeon.

*Raise the Flag, and other Canadian Songs and Poems.* Rose Publishing Company, Toronto.

An admirable selection of patriotic songs by various Canadian authors, intended especially for school children. It is printed neatly, in pamphlet form. A copy should be found in the house of every loyal Canadian.

## Pamphlets and Reprints.

*Wood's Medical and Surgical Monographs* for January contain: *Advances in Bacteriology.* By R. Koch, M.D.; *Formulary of New Remedies and New Medicinal Preparations.* By H. Bocquillon-Limousin; *Anæsthetics*, a discussion. By Dr. William Macewen, and others. The February number contains: *The Clinical Use of Prisms and the Decentring of Lenses.* By Ernest Maddox, M.B.; *Electricity in the Treatment of Uterine Tumors.* By Thos. Keith, M.D., LL.D. Edin., and Skene Keith, F.R.C.S. Edin.; *Ether Drugging, its Prevalence and Results.* By F. H. St. H.

*Resection of the Optic Nerve.* By L. Webster Fox, M.D.

*Nasal Intubation.* By D. H. Goodwillie, M.D.

*Deafness as a Result of Nasal and Dental Diseases.* By D. H. Goodwillie, M.D.

*Literature Concerning the New Remedy for Tuberculosis.*

*Care in the use of Tubercle Bacillus as a Remedy in Tuberculosis.* By Samuel G. Dixon, M.D.

*The Franklinic Interrupted Current, or My New System of Therapeutic Administration of Static Electricity.* By W. J. Morton, M.D.

*Laws of the State of Michigan Relating to the Public Health, in Force in the Year 1890.*

*Proceedings of the Sanitary Convention held at Lapeer, Michigan, 1890.*

*Prof. Koch's Method to Cure Tuberculosis.* Popularly treated. By Dr. Max Birnbaum. H. E. Haferkorn, publisher, Milwaukee.

*Notes on the Examination of the Sputum, Vomit, Fæces, and Urine.* By Sidney Coupland, M.D., Physician to Middlesex Hospital. H. K. Lewis, 136 Gower Street, W. C., London.

*Etudes sur la Rage, et la Méthode Pasteur, par le Dr. Lutand.* Paris: *Journal de Médecine de Paris*, 35 Boulevard Hausman.

## Personal.

MR. LAWSON TAIT published a letter in the *British Medical Journal* of Feb. 14th, in reply to the address of Professor J. William White, of Philadelphia, delivered at the Post-Graduate Course of the University of Toronto, and published in *THE CANADIAN PRACTITIONER* of January 1st, 1891. He says he cares nothing for the results of scientific biological experiments which are opposed to clinical experience, and thinks the occurrence of abscesses in closed cavities disproves the germ theory. The letter is not particularly strong, chiefly because of the absence of the usual amount of invective which has generally characterized Mr. Tait.



DR. NORMAN ALLEN has been appointed Medical Health Officer of Toronto, at a salary of twenty-four hundred dollars per annum. He attended lectures during his course as a student at Trinity Medical College, and graduated in 1885. He spent some time subsequently in England, and successfully passed the examination for M.R.C.S. Eng., in 1886. During the last four years he was practising in partnership with his father-in-law, Dr. Martin, of Carlton Street.

THE Cambridge Medical Graduates' Club entertained Sir George Murray Humphry at dinner, February 14th. The immediate cause was a wish to extend congratulations upon the honor recently conferred upon him by the Queen.

SIR JOSEPH LISTER has been elected consulting Surgeon to the Brompton Hospital in the place of the late Professor Marshall.

DR. FELIX SEMON, formerly assistant, has been appointed Physician for Diseases of the Throat, at St. Thomas' Hospital, London, Eng.

DR. A. T. CARSON, of Toronto, when last heard from, was on the Island of Capre, near Naples. His health continues to improve.

PROF. KOCH, Sir Joseph Lister, and M. Pasteur, were recently elected honorary members of the Society of the Friends of Science, at a meeting held in Posen.

## Births, Marriages, and Deaths.

### BIRTHS.

HOIG.—At Oshawa, on Friday, February 20th, the wife of D. S. Hoig, M.D., of a daughter.

CLENDENAN.—At West Toronto Junction, on the 23rd of February, the wife of Dr. G. W. Clendenan, of a daughter.

## Therapeutic Notes.

TREATMENT OF TINEA TONSURAN. Dr. Simpson recommends the following treatment for ringworm of the scalp and body: Cut the hair short and wash the scalp well with tincture of green soap, and then apply the following solution with a camel's-hair brush:

R. Hydrargyri chlorid. corrosiv. gr. j.  
Collodii 5 j.

M.

This treatment may be recommended for three reasons: (1) The corrosive sublimate destroys the fungi. (2) The ether of the collodion penetrates to the root of the hair, conveying the corrosive sublimate to the seat of the disease. (3) The film formed by the collodion shuts off the supply of oxygen to the fungi, and thus helps to destroy them.—*Med. Rec.*

A MIXTURE FOR SIMPLE COLIC.—Dujardin-Beaumez, it is stated, recommends the following mixture in the treatment of colic:

R.—Strong chloroform-water 4 ounces.  
Decoction of orange-flowers 4 "  
Tincture of capsicum 2 drachms.

A dessertspoonful of this mixture may be given every fifteen minutes until the pain is relieved.—*Med. News.*

OINTMENT FOR HÆMORRHOIDS.—Audhoui recommends, in *L'Union Médicale*, the following ointment for hæmorrhoids:

R.—Extract of belladonna } of each, 15 grains.  
" thebia }  
Antipyrine . . . 45 "  
Mercury ointment . . 2½ drachms.  
Simple cerate . . . 1 ounce.

This is to be made into an ointment and applied to the inflamed hæmorrhoids. Rectal injections of warm water are to be employed if constipation is present.—*Med. News.*

### EARACHE DROPS.—

Camphor-chlorid . . . 5 minims.  
Glycerin . . . 33 "  
Almond oil . . . 20 "

Mix. Three drops of this mixture on absorbent cotton to be placed in the ear twice a day.—*Chemist and Druggist.*

## Miscellaneous.

THE Chicago Medical College will erect a new building at a cost of \$100,000.

THE Illinois Board of Health will not in the future recognize any foreign diploma which does not give to its holder the right to practise medicine in the county in which it was granted. At present many Canadians are practising in Illinois on the strength of degrees conferred by our universities. Hereafter such right, as far as Ontario is concerned, will only be granted to those who have passed the examinations of our Medical Council.

THE fifty-ninth annual meeting of the British Medical Association will be held at Bournemouth, commencing July 28th, 1891.

THE Congress of American Physicians and Surgeons will hold its second triennial meeting in Washington, D. C., on September 22nd, 23rd, 24th and 25th, 1891, under the presidency of Dr. S. Weir Mitchell, of Philadelphia.

TREATMENT OF ACUTE VOMITING OF PREGNANCY.—The *Journal de Médecine de Paris* recommends five drops of a solution made up of equal parts of iodine and chloroform to be taken at the time of eating by women suffering from the vomiting of pregnancy.—*Medical News*.

SOAP AS A REMEDY FOR MOSQUITO BITES.—“Numerous remedies, such as ammonia, oil of cloves, chloroform, etc., have been recommended for mosquito bites, but a writer in the *Kolonialwaaren Zeitung* says that ordinary soap is as good as any of them. He always carries a small piece with him on his country excursions, and in case of a bite makes a lather over the affected part and allows it to dry on. The burning is at once relieved and all pain soon disappears. Should it return, as sometimes happens, it is only necessary to repeat the application.”—*Druggists' Circular and Chemical Gazette*.

MENTHOL IN THE TREATMENT OF THE VOMITING OF PREGNANCY.—The *British Medi-*

*cal Journal* refers to articles by Henske and Gottschalk regarding the efficacious properties of menthol in cases of the incoercible vomiting of pregnancy. A mixture containing fifteen grains of the drug in five ounces of water and five drachms of rectified spirit was used, a tablespoonful being the dose given hourly until the emesis had been checked. The editor of the *Archives of Gynecology* is quoted as having made a satisfactory trial of the remedy. The vomiting ceased after fourth dose. Dr. Gottschalk reports two cases with similar results.

DR. COULTER'S COMBINED VAPORIZER AND INHALER.—Dr. Coulter, who practised for many years in Lindsay, has invented a new instrument for vaporizing oils and drugs for inhalation as well as for deodorizing and disinfecting sick rooms. This ingenious instrument has many advantages, on account of which we can recommend it highly. It is made with nickel-plated copper, being very simple, and at the same time durable. It is not simply a spray producer, but is really a vaporizer, and thoroughly volatilizes oils, breaking the oils into very small particles. For particulars see page 6 in advertisements

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TORONTO, APRIL 16, 1891.

Original Communications.

TUBERCULAR DISEASE OF BONE—  
PATHOLOGY AND TREATMENT.\*

BY A. PRIMROSE, M.B., C.M. EDIN., M.R.C.S. ENG.,

Lecturer on Topographical Anatomy, University of Toronto;  
Surgeon to the Out-door Department Toronto General  
Hospital; Surgeon to the Out-door Department  
Toronto Hospital for Sick Children.

*Mr. President and Gentlemen:*

There is no field of surgery at the present time in which greater diversity of opinion exists than in the treatment of tubercular joint disease. Extreme views are held, on the one hand, by surgeons who advise an early attack on the diseased articulation, and complete removal by exsection of the joint; on the other hand, another set of surgeons believe that rest for the joint, combined with a strict regime of constitutional treatment, will prove more satisfactory even in advanced disease. There exists yet another class of surgeons who advocate a middle course, and very recently the suggestion has been thrown out that simple incision into the joint may result favorably, much in the same way as an incision into the peritoneal cavity in tubercular peritonitis exercises a curative effect.† The present methods of treatment of tubercular disease in the shaft of a long bone are scarcely more satisfactory than are those adopted in joint diseases. The disease runs a

tedious course, and after many months or years may end in extensive necrosis of the bone, and eventually the limb may have to be amputated. In more favorable cases the disease may have been checked and a cavity may be left in the interior of the bone, the walls of which are healthy. These cavities may close and the case terminate successfully, but very frequently the granulations lining the walls of such a cavity become unhealthy, and the healing process may be indefinitely postponed. A case came under my observation in which such a cavity of large size existed in the upper end of the tibia in a boy, which refused to heal. An attempt was made by introducing desilicated sponge, after the method of Hamilton,\* to encourage the growth and deposition of healthy tissue in the part, but this failed, as did every other device. Eventually the limb had to be sacrificed and amputation was performed at the knee joint. Certain cases, however, progress to a successful termination: the disease is removed, the tissues take on a healthy action, and the limb is restored to a normal condition.

The development of tubercle in osseous tissue, in the early stages of the disease, has been studied more minutely in the articular ends of the bone rather than in the shaft. The reason for this is obvious; operative procedure has many times been resorted to very early in the treatment of tubercular joints, and the method of removing the end of the bone entire has rendered it possible to examine the condition of

\*A Lecture delivered at the Post-Graduate Course of the University of Toronto, December 18th, 1890.

† *Lancet*, November 15th, 1890, page 1018.

\**Vide* Hamilton, *Edin. Med. Jour.*, November, 1881.



the tissue without disturbing the relation of the structures entering into its anatomy. On the other hand, it is rarely, if ever, the practice of the operator to exsect a portion of bone entire from the shaft, when disease exists there it is removed piecemeal, and the same opportunity is therefore not afforded for minute examination. The disease seems primarily to start in the cancellous tissue of the bone where small grey nodules may be found; these multiply and coalesce, forming irregular areas: the collection then tends to caseate. The cartilage over the articular surface of the affected area of bone may be normal in appearance. In a case of early hip-joint disease I assisted Mr. Watson Cheyne in the removal of the head and neck of the bone: the following appearances I quote from my notes of the case: "The articular cartilage seemed healthy, but the ligamentum teres was soft and of a somewhat gelatinous consistence. The appearance of the bone, on external examination, was normal; on making a longitudinal section through the neck and head it was found that the cartilage was separated from the osseous tissue below, on which it was freely movable; there was an inflammatory condition immediately beneath the cartilage; the bone in the immediate neighborhood was softened and carious; a small focus of yellow caseous material, the size of a threepenny piece, existed in the substance of the neck in the anterior and lower portions; another focus was present in the cut edge of the femoral neck: there had evidently been a portion of this focus left unremoved in the lower fragments of the femoral neck." These caseous foci may still further break down, and cavities may thus be formed; the tubercular network of osseous tissue being destroyed, the diseased area is surrounded by bone in a state of irritation, the blood vessels are dilated, exudation of the leucocytes occurs, and a collection of these cells, plus broken down tissue, is found in the cavities thus formed; we have in this way established a collection of pus in the cancellous tissue. The stages then in the development of tubercle may be summed up thus: (1) The typical grey tubercle; (2) the caseous mass; (3) the formation of a cavity; (4) a collection of pus with the entire destruction of the osseous tissue.

If we enquire for one moment into the minute anatomy of these conditions, we will find that

the tubercular process, as manifested in bone, presents the same characteristics as it does in other tissues, modified somewhat, however, by the peculiarities of the osseous tissue in which it grows. If the grey tubercle be examined under the microscope we find one or more giant cells: surrounding these is a zone of cells of irregular outline, and outside these again a zone of round cells like leucocytes. Between the cells is a network of fibrous filaments. These appearances are so familiar that I need only mention them. A necessary item, however, among the constituents of the tubercular nodule is the bacillus tuberculosis, which is, we are bound to consider, always present, at all events during the earlier stages of the development of the mass. The life history of the nodule is determined by the fact that it is extravascular: there are no blood vessels among the cells; the osseous tissue in the immediate neighborhood shows an increased vascularity and an increase in the number of cells; these blood vessels, however, do not enter the nodule. A study of these special characteristics enables us to understand the peculiar features presented by tubercle. The fact that it is non-vascular explains the fact that these nodules do not grow beyond a certain size; further, the nutrition being necessarily defective, the nodules tend to undergo retrogressive changes, and we have, in consequence, fatty degeneration, the formation of a necrotic mass, and finally a caseous nodule is produced. We may find tubercle in isolated patches or nodules such as I have described, or, what is more common, a number of these coalesce and form an irregular mass of cells, which will eventually undergo retrogressive changes. The tubercular nodule does not always caseate: occasionally we find a sclerosed condition at the seat of the disease; this condition of affairs\* has been described as follows: In the centre we find an accumulation of cells such as I have described. Immediately beyond this there is a growth of osteoblasts, deeply colored: this color, it is suggested, may be due to the presence of micro-organisms. After a time the osteoblasts form a mass of sclerosed bone; in fact, we have a tubercular deposit to begin with, which engenders a condensing osteitis in a limited area of bone, and so the formation of a non-vascular solid

lump is the result; this may be in the very centre of the cancellous tissue of one of the growing bones. This sclerosed mass acts as a foreign body, sets up irritation, and may be the source of an inflammatory and suppurative process in the surrounding bone.

*Tubercular caries.* By the term "caries" is meant a gradual destruction and liquefaction of the bone elements, the results of an inflammatory process. This may be brought about by more than one set of pathological changes, but that a particular variety of caries is due to tubercular osteitis is beyond a doubt. In certain cases of caries we find tubercle in the affected bone; we find also that caries of the articular end of a bone is often a secondary development in typical cases of white swelling of the joint; then again, the bacillus tuberculosis has been demonstrated in the discharges\* from an abscess dependent upon caries of the bone. Bacilli can scarcely ever be thus demonstrated in the pus, but that their spores are there can be shown by inoculation on the rabbit's eye.† The effect of a tubercular osteitis is to cause the bone to soften, the medullary tissue disappears, the cancellous trabeculae are gradually destroyed; the bone in this way becomes first friable, so that if a probe were introduced and gentle pressure made upon it, it would readily be made to penetrate the friable tissue, which gives way before it: eventually a cavity is formed; when complete destruction of the osseous tissue has taken place, this cavity is filled with earthy granular particles, broken down cells, blood corpuscles, oil globules, and pus cells. In tubercular caries, therefore, we have a molecular disintegration of osseous tissue, the result of a previous tubercular osteitis; in this way an abscess is formed which may be restricted to the interior of the bone, or it may burrow in the adjacent soft parts, forming what is known as a cold abscess; these abscesses may point on the surface and open spontaneously, leaving fistulous tracks along which the discharge finds its way. Unhealthy florid granulations spring up and line the walls of such sinuses, and an exuberant growth of this granulation tissue exists about the mouth of the sinus. If the abscess remains unopened, we have a process of chronic inflammation in the soft tissues which

form the abscess walls; this causes a thickening and condensation of the connective tissue, the innermost layers of which are badly nourished, and finally perish and are cast off into the abscess cavity as slough and shreds of gelatinous tissue in a necrotic state. The inflammatory process then attacks more extensive areas of the soft tissues as the abscess increases in size, and the wall of the abscess towards the cavity continues to cast off sloughs in the manner indicated.

The condition of caries as restricted to the bone itself may extend indefinitely, and cases occur in which the entire bone in this way ulcerates, but it is more usual for the bone in the immediate neighborhood to become the seat of a chronic inflammatory process which leads to condensation and thickening of the surrounding bone; thus a carious cavity may be bounded by walls of sclerosed bone.

*Caries-Necrotic.* The process of liquefaction may continue solely as such, or there may be along with it death of comparatively large areas of bone, thus forming sequestra. There are two ways in which portions of bone may thus perish. We have seen that occasionally accompanying the production of tubercle we have a sclerosed mass of bone immediately surrounding a caseous nodule; this is non-vascular, and remains as a necrotic nodule, exciting irritation in its immediate neighborhood as a foreign body; this is a sequestrum really of new formation. More frequently we find thin lamellae of bone lying loose in the carious cavity; these portions of necrotic bone are cast off in the same manner as sloughs are detached from the abscess wall in the soft parts. The area of caries is surrounded by bone in the condition of condensing osteitis. As the sclerotic process advances, the Haversian canals are obliterated during the chronic inflammatory process in the compact bone, and the vascular supply cut off, or the vessels suffer from direct pressure of inflammatory effusion in the cancellous tissue. This occurs more particularly in the deeper layers of the sclerosed wall, and as a result, sequestra are cast off and are found lying free in the carious cavity. The conditions which determine the separation of a portion of bone in this way are dependent upon an exacerbation in the inflammatory process surrounding the diseased area. If caries run a slow course, and, during

\* Roberts' *Modern Surgery*, p. 314.

† Erichsen: *Science and Art of Surgery*, 9th ed., vol. 1., p. 1089.

the disease, the limb is not submitted to any sort of injury or unrest which might determine a certain degree of irritation in the affected part, then we shall probably have the disease running a course of caries pure and simple; if, however, the process be a rapid one, or if inflammation is increased in the parts by injury or manipulation, or possibly by some general constitutional disturbance, then follows an extra amount of inflammatory effusion, pressure on the vessels in a confined area, and, consequently, death of the tissue from defective blood supply.

**Necrosis.** This is more common in the compact bone. In this condition the tubercular osteitis spreads rapidly throughout a large area of bone, and before liquefaction can occur, *i.e.*, before sufficient time has elapsed for the complete disintegration of the osseous tissue, the portion of bone affected is killed *en masse*, and a large sequestrum is formed; this sequestrum is set free by absorption of the bone in the inflamed area. The osseous tissue in the line of separation exhibits appearances similar to that found in caries; the inflammation here is of a specific nature and is in reality a condition of tubercular osteitis. Beyond this, again, the living bone is undergoing a process of condensing osteitis, so that there is great thickening of the shaft of the bone. Thus we have in tubercular necrosis to deal with three zones of diseased tissue, (1) the sequestrum, (2) the area of rarefying tubercular osteitis, (3) the areas of condensing osteitis. (The specimen exhibited demonstrates the condition described.)

I have now completed the description of the pathological phenomena observable in conditions of tubercular affections of bone, and you will observe that three distinct clinical varieties present themselves. Of these, caries is more common in cancellous tissue, in the articular extremities of long bone, and in the bones of the carpus and tarsus. It is also familiar in caries of the vertebræ, constituting what is known as Potts' disease. We may, however, find caries affecting any of the bones of the skeleton. Caries necrotica is met with chiefly in the shaft of long bones, and tubercular necrosis in the same situation. The condition described by the older writers as *spina ventosa* is primarily a tubercular osteitis, causing expansion of the medullary cavity, softening of the spongy bone,

with thickening and infiltration of the periosteum and soft parts surrounding. The disease is confined to children and young adults. It is said that the first metatarsal is most frequently affected; next the first phalanx of the middle finger; then the thumb; rarely in some other part of the body. Caries without suppuration—"dry caries"—so-called—occurs occasionally in the spine, and in that situation is not an uncommon condition; such phenomena are, however, manifested in other parts of the skeleton. Mr. Hutchinson\* recorded a case of caries of the articular surfaces of the knee-joint, without suppuration; the specimen was subsequently examined by Mr. Eve, and typical tuberculosis found.†

**Tubercular Periostitis.** Periosteum may be the seat of the primary tubercular disease. The close association of the periosteum with the bone renders it extremely unlikely that the disease will progress to any extent in the former without leading to affection of the bone secondarily.

Acute inflammation of bone is extremely rare. It is a question for investigation whether some cases of acute epiphysitis occurring in young children may or may not be of tubercular origin.

**Treatment.** In considering the method of treatment, the question at once suggests itself as to whether it is possible for a cure to be effected without operative interference. It seems probable that the tubercular nodule at an early stage of its development may resolve, that is before there has been complete disintegration of the osseous tissue and a necrotic mass formed. Then, again, we are familiar with the existence of tubercular masses in the soft tissues which have lost their vitality, or which remain in a state of quiescence without giving rise to discomfort. Such cases of old tubercular disease are common in pulmonary tissue, and are frequently found in the lungs at a *post mortem* examination. Then, again, lymphatic glands after an active tubercular inflammation may remain without giving rise to discomfort, as a mass of inert and non-irritating tissue, for a whole lifetime. In the same way we believe that tubercular disease in bone may run a similar course. There can be no doubt, however, of the fact that although resolution is the best event that can possibly follow the tubercular process; the

\* *Transactions Pathological Society of London*, vol. xxxviii., p. 312, 1887. † *Transactions Pathological Society of London*, vol. xxxix., p. 267, 1888.



condition of quiescence without resolution is one of questionable security. There is a liability at any future time for the disease to light up afresh; this probably is accountable for those cases of hip-joint disease which recur after an apparent cure. Constitutional treatment is in all cases of great importance. This consists in good nourishing food, fresh air—sea air if possible—and exercise, combined with the administration of cod liver oil, iron, the syrup of the hypophosphites, phosphorus, or some other equally good form of tonic.

In the early stage of the disease we may hope for resolution, and we must encourage this; the indications are, first, perfect rest for the diseased bone; this may be accomplished without interfering with exercise. Wherever we have to deal with tubercular disease, it is of very great importance that we interfere as little as possible with the free permission given to the patient to take all the exercise which the inclination dictates, avoiding exhaustion. If, however, exercise for any reason be incompatible with rest for the diseased bone, then the latter must always be considered the more important indication, and on no account must we allow anything to be a cause of unrest in the affected tissue in which we are hoping for the process of resolution. The method by which we can secure rest must vary according to the position and the extent of the disease. Macnamara\* records a case of early tubercular disease in the os calcis treated with perfect success by the application of suitable apparatus. The beneficial effect of rest, combined with exercise, in caries, is exemplified in the use of the various forms of fixation apparatus used in joint affections, but a striking instance of it is seen in cases of tubercular caries in the spine. The treatment by the application of plaster of paris jackets, as introduced by Dr. Sayre, of New York, has yielded excellent results, and this method of treatment is now all but universally employed in spinal caries. The principles involved in the treatment are the same whether the jacket be made of plaster or poroplastic material. The method of applying the plaster of paris jacket so as to fix the spine in the position of extension, and thus prevent pressure of the diseased surfaces together, has, until recently, been by the use of suspension—

the block-and-tackle apparatus being used after the manner with which, you are all familiar. The method suggested by Mr. R. Davy,\* however, will be found quite efficacious, and probably more effectual in attaining the desired result. I refer to the method of slinging the patient in a hammock composed of some soft material, *e.g.*, cheese cloth. The patient lies on his face in the hammock, and the plaster is applied, the bandages being applied over the portion of the hammock lying in contact with the body. As the patient lies thus on his face in a hammock which is suspended at either end, there is very complete extension of the spine, and the plaster jacket secures it thus



FIG. 1.

in the desired position. When the plaster has dried, the portion of the hammock above and below the jacket is cut away. When the cervical vertebrae are affected a different form of apparatus must be used. We combine with the jacket a jury-mast to support the head. I show you here a patient treated on these principles; (Fig. 1) instead of the ordinary jury-mast I have had substituted a croquet-hoop apparatus, first suggested by Dr. Elliott;† this is more convenient than the jury-mast, as it allows the patient to lie flat on her back without inconvenience, and is not as awkward as the ordinary apparatus. The patient wears a poro-plastic jacket, to which the

\*Macnamara: *Diseases of Bones and Joints*, p. 121.

\**British Medical Journal*, July, 1885.

†*British Medical Journal*, Jan., 1884.

head support is attached. On admission to the Children's Hospital she was complaining of a considerable amount of pain. After lying in bed, with extension applied to the head, for some weeks, the apparatus which you see was applied, and she was allowed to run about. She has been at the Home on the Island all summer, playing about in the sand; she has had no pain nor discomfort since the jacket was applied, and her general health is excellent.\*

When the long bones are affected, or the small bones of the foot or hand, fixation (suitable) must be provided, keeping the same principles of treatment by rest in view. When the disease is situated in such a position that counter-irritation may be combined with the treatment by rest, then the tincture of iodine painted over the part will be found serviceable. This will not be found of much value in spinal caries, possibly because the seat of the disease is too far removed from the surface. Indeed it seems just as legitimate to my mind, if the theory of reflex nervous action be accountable for the affect of the counter-irritation, to apply the counter-irritant to the flanks or the front of the belly as it is to apply it to the back, when the bodies of the dorsal vertebræ are affected, the nerve connections with the vertebral bodies being quite as intimate in the one case as in the other.

The operative treatment must now be briefly considered. In speaking of this I entirely exclude joint disease from my remarks, as this will be spoken of by the lecturers who follow me. The indications for operative interference are dependent to a great extent on the part of the skeleton affected. Spinal caries is seldom dealt with in this way unless there be an abscess developed in connection with it. First, then, we may consider that the formation of an abscess or the existence of a discharging sinus is always an indication for surgical interference. Then, again, where the disease is extensive, affecting perhaps a bone of the hand or foot in its entirety; where the disease is near a joint, and by its tendency to spread threatens to implicate the articulation, in these cases, too, the disease is

oftentimes situated near the epiphyseal cartilage, and in young people the growth of the bone may be interfered with if the process of destruction at this point be not terminated; pain of great severity, is rarely the indication, but is to be considered in deciding upon a course of treatment in a given case. Lastly, I would mention that in certain cases where there are indications of pulmonary tuberculosis, far from this being a contra indication, I believe that if there be a primary affection of the bone it ought to be treated surgically and the disease removed. It may be that the diseased bone is a source of infection for the system generally and that a tubercular lung affection of recent origin may entirely disappear if the tubercular disease of the bone be dealt with.

When an operation is undertaken the method of procedure must be decided on the merits of the individual case; the disease must be entirely removed, and the cavity left must be surrounded by healthy bone tissue and entirely free from any irritating discharge. An attempt must be made to set up a healthy action in the wound, with the hope that it will close by the development of healthy granulation tissues. Let me quote a case by way of illustration. A boy, æt. 11, was admitted into the Children's Hospital with extensive disease in the shaft of the right tibia and in the left internal malleolus. There was found a condition of caries in both situations with the existence of sinuses. All unhealthy granulations were scraped away. The bone was scraped by means of a Volkmann's spoon; in this way all the soft and unhealthy bone was removed, leaving a cavity with firm walls; this was thoroughly irrigated with perchloride of mercury 1-2000, and then stuffed with lint, soaked in chloride of zinc, 40 grs. to the ounce, and stuffing was left in for half an hour and then removed, after which the cavity was dusted with iodoform and was stuffed with lint, soaked in 1-2000 perchloride of mercury; an antiseptic pad was applied and secured by bandage; the left internal malleolus was treated in the same fashion. The object of such a method of treatment is, first of all, to remove the disease thoroughly, and then to leave healthy tissue behind. The effect of the chloride of zinc in strong solution is beneficial; it causes a microscopic sloughing of the surface of the tissue to which it

\*Since writing this lecture I have incorporated the croquet-hoop apparatus in a plaster jacket. This was done in the case of a patient two years of age, suffering from cervical caries. The result has been all that could be desired; the child has lost all pain, and, while she was previously fretful and irritable, she is now cheerful and bright, suffering no discomfort whatever.

is applied. The slough is formed apparently by a mixture of the chloride with the tissue; the slough remains as a thin film and protects the tissues beneath from further action of the solution, while at the same time it provides an excellent barrier against septic infection; the process of suppuration in a cavity so treated is entirely suspended for about forty-eight hours. Let me here caution you against the use of a solution of chloride of zinc of weak solution. This acts as an irritant in the tissues. Last summer I operated in a case of caries of the tarsal bones, and after removing the diseased bone I asked for a solution of chloride of zinc, 40 grs. to the oz., with which I stuffed the cavity. I discovered the following day that the solution was not 40 grs. to the oz., but very much weaker. The patient suffered extremely for some days after the operation, and I attributed it, whether rightly or wrongly, to the weak solution of chloride of zinc; it was not of sufficient strength to kill the tissue outright, but soaked into the tissues and acted as a strong irritant, setting up a degree of inflammation which continued despite all our efforts to get the cavity cleared out by irrigation. Finally, after ten days, during which the patient suffered great pain, I performed a second operation, scraped away all the irritating material from the walls of the cavity, and stuffed it with lint soaked in perchloride of mercury. Subsequently there was little pain, and the cavity entirely closed.

These cavities are slow to heal. The process of healing by granulation in an ulcer in the bone is of necessity very slow. Then, again, there is always a danger of these granulations becoming themselves the site of a tubercular process necessitating their removal by operation. All that surgery can do in these cases at present is, first of all, to remove the disease entirely; and, secondly, to treat the case subsequently in such a fashion as to secure, if possible, a healthy healing process. After operation a healthy action of the tissues is to be maintained by frequent dressing and irrigation with some non-irritating lotion, such as boracic acid.

What are the causes of failure in our treatment? Our interference surgically may set up such a degree of inflammation in the walls of the cavity, which are already the seat of condensing osteitis, that the effusion may cause

pressure on the blood-vessels, and finally their obliteration, the result being that a necrosis takes place. It is of frequent occurrence in these cases to find thin lamellæ of bone cast off and coming away in the discharges, perhaps weeks after an operation. Then the granulations may, as I have stated, become the seat of a tubercular process; therefore it is that oftentimes all our best efforts to bring these cases to a successful termination fail, and finally we may have to resort to amputation of a limb, when the disease has become extensive, or the tubercular affection may have become general, and our patient may die of tubercular meningitis or phthisis pulmonalis.

The special efficacy of iodoform in treating the tubercular disease of bone is still a question of dispute; injections after the method of Verneuil are not favored by Dollinger, who found that in children they did not induce recovery in a single case; that injection of small amounts produce deafness, headache, and nausea; of larger quantities, loss of consciousness, impaired respiration, and acute cystitis. At the moment of injection some headache might be felt, and there might even be a rise of temperature three or four degrees F. The rapid evaporation of the ether may cause necrosis of the abscess wall, and if, for example, a psoas abscess should burst into the peritoneal cavity, death might result from such an injection. Iodoform oil, one in five, has been recommended for abscesses. It is said to cause a disappearance of the tubercle in the abscess wall. Of 109 cases treated one-third were apparently cured, and as many more improved; the small amount injected, 32 to 59 minims, will not cause iodoform poisoning.\*

In concluding this paper, let me refer briefly to the treatment of cold abscesses formed in connection with tubercular disease of bone. The walls of the abscess cavity I have already described. The indications are to remove all the sloughs and gelatinous tissue, and to leave a wall of comparatively healthy tissue upon which granulation may spring up, which may eventually lead to a closure of the cavity. Formerly it has been the custom to scrape the abscess wall with a Volkmann's spoon; this, in addition to removing the sloughs, is apt to cause too much destruction of the tissue forming the wall. It

\*Sajous: *Annual of the Medical Sciences*, 1890.



causes, in fact, so much destruction and inflammation that further sloughing is apt to take place, and the formation of granulation tissue is postponed. The method recently suggested by Mr. Caird in the *Edinburgh Medical Journal*, of scraping the abscess walls with the finger-nail, is much preferable.\* Here we are guided by the sense of touch, and can readily feel when the wall is left smooth and free from shreds and sloughs. The abscess wall after such treatment readily takes on healthy action and the healing process is facilitated. Mr. Caird reports cases of a large gluteal abscess of two years' duration closed in three weeks, a double psoas abscess dependent upon Potts' disease healed in six weeks, and some other similar cases, successfully treated in this way. Dr. Cameron recently treated a tubercular abscess in the neck, of some years standing, in this way with excellent results. The abscess healed without any discharge of pus. These chronic abscesses are apt to become septic when opened. I use the term "septic" advisedly. In the chronic abscess we have the specific virus of tubercle occupying the field, but once give an opportunity for the entrance of those organisms, which are ordinarily accountable for septic changes in an open wound, and we have the whole aspect of affairs changed. We now have to fight a new enemy; the clinical phenomena formerly of a chronic nature now take on an acute action, and we then speak of the abscesses becoming septic, and the danger of general septic poisoning is greatly increased. In addition to the danger of becoming septic, these abscesses are liable to absorb materials thrown into the cavity, and therefore strong germicides must not be used because of the danger of producing toxic effects. The reason is that the walls of the chronic abscess are vascular and are not protected by granulation tissue. The lotion, whatever it may be, is readily absorbed, and if any sloughs or shreds of tissue line its walls, these take up the lotion like a sponge, and it is thus applied to the vascular walls beneath, and absorption takes place. Once granulation springs up the risk of absorption and septic infection diminish. Thus we recognize clinically the fact that chronic abscesses, when first opened, are very apt to become septic and to produce general septicæmia; but after a few

days or weeks the granulations form a protective barrier, and the abscess, though open, is not so prone to become a source of danger. This explains the dread the older surgeons had of opening chronic abscesses, it was so frequently followed by septicæmia. Now, with antiseptic precautions, we can attack such collections without dread of such an unfortunate result.

Abscesses in connection with spinal caries forming a collection under the psoas fascia should be opened in the loin after Treves' method. This affords one a better opportunity of keeping it aseptic than if it were opened in the thigh. A case in the Children's Hospital, in which a large collection was pointing in the thigh, I successfully reached by the lumbar incision. The case did well, and although an opening occurred spontaneously in the thigh two or three months after, still sufficient time had elapsed for the lining of the abscess wall with granulations to occur, and when the second opening formed the danger of septic infection had very much diminished.

### PRIMARY LARYNGEAL DIPHTHERIA IN THE ADULT.†

BY ALEXANDER M'PHEDRAN, M.B.

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Eva W., æt. 20, a public school-teacher, was not very well during the year. Has frequently had trouble with her throat, with hoarseness. On Sunday, 21st December, 1890, was somewhat hoarse and not feeling very well. She went to the school-room on Monday, and sat there for some time with the thermometer at 48°. By evening aphonia was complete. Had an attack of dyspnoea, which, in going to seek aid, was relieved by the cold air. I saw her after another attack, at 5 a.m. on Tuesday morning, 23rd December. The tonsils, pharynx, etc., were normal then, no swelling of cervical glands, the breathing quiet. With a defective laryngeal mirror the larynx appeared pale and somewhat swollen; temperature, 102°. The breathing was quiet all day, and by evening the temperature had fallen to 100°.

On Wednesday, 24th, she had an extremely severe paroxysm at 2 a.m. At my request, Dr.

\**Edin. Med. Jour.*, September, 1890, page 226.

\*Barker: *Manual of Surgical Operations*, page 111.

†A paper read before Toronto Medical Society, Mar. 10, 1891.

D. J. Gibb Wishart was sent for, and with his mirror the glottis was seen thickly covered with membranous deposit. On the right vocal cord the membrane was loose, and caused the paroxysm of dyspnœa; this membrane was removed by a probang covered with absorbent cotton; it was tinged with blood. On each tonsil were several pultaceous deposits: they were easily brushed off, leaving no abrasions, no enlargement of cervical glands. The membrane contained the Klebs-Lœffler bacillus of diphtheria in abundance, and very little inflammatory exudate. It was examined by Dr. Macallum of the Biological Laboratory. A solution of liquor potassii in lime-water (5j. ad 5j.) was applied to the larynx every hour by an atomizer. At first gr. x. papoid was added to this, but as it clogged the atomizer tube it was omitted, probably without lessening the usefulness of the application. Internally she took tr. ferri. mur. m. xv. hydrargyri perchloridi gr.  $\frac{1}{40}$  m. solution, every two hours. As much liquid nourishment as possible was partaken of.

Dyspnœa became quite distressing again about noon, and arrangements were made for intubation and tracheotomy. During the afternoon she coughed some membrane, and relief followed. In the evening she felt much better; no membrane was to be seen, but the cords looked reddish and swollen; temperature,  $100\frac{1}{5}^{\circ}$ .

25th. During the night dyspnœa returned, and more membrane was seen on cords; it could not be removed by probe. Spray was used freely, and some pieces were coughed up towards morning. Breathing became easy, and she had several short sleeps during the day; temperature about  $100^{\circ}$ . Several small membranous patches appeared on tonsils, with some diffused redness.

26th. 10 a.m., temperature,  $100^{\circ}$ ; pulse 98. Coughed up much membrane during the night. Mirror showed thin coating of glottis instead of thick membrane. Fauces redder; considerable pain in left side on swallowing, and slight swelling of the cervical glands. The yolks of two eggs were added to the daily diet.

Dyspnœa becoming distressing in the evening, Dr. W. J. Wilson, of Richmond Hill, her family physician, saw her with Dr. Wishart and myself. She had coughed up much membrane with but

little relief, and the symptoms pointed to extension of membrane down the trachea. The treatment was continued, and turpentine was constantly vaporized in the room in a tin floating on a solution of carbolic acid (1 in 20) kept boiling over a gas jet.

During the next day she coughed up much membrane, and a little the day following, after which no more was expectorated. The temperature became normal. On 31st the vocal cords were clean but swollen. Only a whispering voice. The swelling of the cervical glands, which had only been slight, gradually disappeared. She continued to improve, and was able for the journey home to Richmond Hill by January 14th. She had been taking the iron freely, the mercurial having been omitted with the abatement of the disease. She was using an alkaline antiseptic solution as a spray. She has now recovered her usual health and resumed her professional duties.

Had this patient been a child, she would no doubt have gone the way of all other cases of laryngeal diphtheria it has been my misfortune to meet. Her recovery is due to having a fully developed larynx, being able to carry out treatment fully and persistently, and being able to resist the constitutional poisoning.

Since Klebs in 1883, and Lœffler in 1884, announced the discovery of a bacillus as constantly present in the membrane in all cases of true primary diphtheria, the researches of a large number of bacteriologists have all but proved this bacillus not only present in the membrane, but as the cause of this dread disease. It was found in great abundance, singly and in clumps, in the membrane from this girl's throat, whose general condition left no doubt of the truly diphtheritic nature of the affection.

This bacillus is found only in the exudate and not in the blood, the lymphatic glands, or any organs, not even in the affected mucous membrane itself. The constitutional symptoms and lesions of internal organs as lymphatic glands, spleen, kidneys, etc., are caused by extraordinarily poisonous substances of the nature of toxic albumins, absorbed from the site of local inoculation of the bacilli. These septic substances have been separated, and being injected have produced all the phenomena of diphtheria, save the membranous deposit.

In the experimental production of diphtheria it has been found insufficient to simply apply the bacillus to the mucous membrane; an abrasion is required to enable it to multiply and produce the typical local lesion. This probably holds true in the human being also; at least many persons are more susceptible than others, and children, in whom the structures of the throat are delicate, are much more readily affected than adults. This being so, then, in the case related, the chronically unhealthy state of the throat with the acquired recent catarrhal inflammation, made worse by sitting so long in the cold school room, converted the laryngeal mucous membrane into suitable soil for the inoculation of the bacillus diphtheria, which she happened to inhale somewhere at the time.

Should this bacillary theory of diphtheria stand the test of thorough investigation, it will prove of the utmost practical importance in enabling us to reach a positive diagnosis in all suspicious cases, as, *e.g.*, in cases of follicular tonsillitis. A small particle of the exudate can be removed, put on a cover slip and stained, when the presence or absence of the Klebs-Löffler bacillus can be readily ascertained by the microscope. It is to be remembered, however, that there is a pseudo bacillus often found in the mouths of healthy children, as well as in those suffering from simple inflammations of the throat. It appears to be always much less numerous and to differ in shape from the bacillus of true diphtheria.

There seems no longer any room to doubt that pseudo-membranous exudate may be produced on any mucous surface, even in the pharynx, by a variety of irritants, if sufficiently severe, as, *e.g.*, high-pressure steam, some chemical irritants, as liquor ammonia, and probably organic ones also; and therefore a membranous exudate in any situation is not sufficient to establish a diagnosis of diphtheria. This ends the old controversy about the possibility of the occurrence of membranous croup other than diphtheritic. This is but another illustration of the truth that with increased knowledge comes the increased ability to differentiate into different diseases what have been apparently but different phases of the same disease, as occurred long years ago in regard to typhus and typhoid fevers. It should be observed, however, that

membranous exudate is, nevertheless, of diphtheritic origin in the vast majority of cases.

An equally interesting and practically important question is whether diphtheria always gives rise to a membranous exudation, or if the exudation is not, in occasional cases, catarrhal only, no membrane being present at any period of the attack. We occasionally meet with cases in which no membrane is visible, yet with such well-marked phenomena as albuminuria, loss of knee-jerk, and various forms of paralyses. It may be objected that the membranous deposit occurs in some place beyond observation, yet in many, if not in all of these, there is a catarrhal condition of the tonsils and pharynx that offers a favorable nidus for the development of the bacterium. As examples of these, we may refer to many cases of diphtheria of the larynx in which no disease occurs in the pharynx, although it is inflamed and secreting muco-pus. In this muco-pus the Klebs-Löffler bacillus has been found by Wesh and Abbott in a case of laryngeal diphtheria;\* and the inoculation of a guinea-pig with the cultures of these germs caused death in three days, with characteristic symptoms.

Another class of cases that indicate that diphtheritic irritation may cause catarrhal inflammation only consists in those in whom only very small spots of exudation occur although the general inflammation of the throat is well marked. A good illustration of these occurred in the case of a young physician a few years ago. He had been attending several exceedingly severe cases of diphtheria. Becoming indisposed he remained in bed, and when I saw him his throat was red, slightly swollen, painful on swallowing, and the cervical glands were somewhat enlarged and tender, but there was no membrane; temperature, 102°. Next morning there were two tiny pieces of exudation on the right tonsil; they did not yield to gentle brushing. The general condition of the throat continued as on the previous day. By the afternoon the exudations had disappeared, and no more formed. He was convalescent in a few days, but partial paralysis of the palate and pharynx followed, and such general muscular weakness that he could mount a street-car only with much difficulty for months afterwards, and

\**Bulletin of the Johns Hopkins Hospital*, Vol. ii., No. 11.



the climbing of stairs caused a feeling of prostration and severe palpitation. There can be no doubt of the existence of diphtheria in this case, yet the local exudation was practically only catarrhal. Doubtless, had an examination been made, the bacillus would have been found in the pharyngeal secretion. Such cases are, of course, quite as dangerous sources of infection to those exposed as any with membranous exudation.

If the bacillar theory of diphtheria be true it enforces the desirability of securing as healthy a condition of the throat as is possible, especially in children, so as to decrease the liability to contract the contagion. Should exposure occur, then the throat should be frequently inspected—daily or oftener—and cleansing antiseptic lotions should be freely used to remove all secretion in which bacteria could effect a lodgment.

Accepting the theory of diphtheria as a local disease, with subsequent constitutional poisoning, we are entitled to expect more of local treatment if begun early, before membrane has had time to form. Our applications must be ineffective, or else they do not gain access to all the primarily affected parts. When caustics were in vogue, doubtless some infected parts escaped the application and the remaining bacilli multiplied the more rapidly on account of the inflammatory process that followed. The applications of perchloride of mercury solutions will also probably fail, as its action would at once encase the germ in a covering of coagulated albumin that would afford protection against further injury. This is what seems to occur, at least when the bacillus tuberculosis is treated with it. Carbolic acid solution might serve a better purpose if it could be used sufficiently strong. As yet, however, we know of no application that meets the requirements of the case. Much may be hoped for soon, as there seems to be now a more intelligent basis on which to work. Probably in the end more may be effected by prophylaxis than by treatment.

It is reported that Frankel and Behring have succeeded in producing immunity in animals by certain processes of inoculation, and that the blood-serum of such animals is capable of destroying or nullifying the effect of the toxic albumins of diphtheria, although not of killing

the bacillus itself. If such be the case, a new era may be dawning in the treatment of this, one of the most dread visitants to a household.

## KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT.

Communicated from Berlin to the University of Toronto.

Since my last letter nothing of special interest has occurred in Berlin.

The Prussian Minister of Education, Von Gossler, has resigned, and his resignation is regretted by scientific and medical circles, as he had always taken the liveliest interest in matters pertaining to them. His too great enthusiasm, as it is generally described, in the Koch affair, can hardly have had anything to do with his resignation, for the separate institute, which he promised Koch, has now been approved in committee, and will soon be submitted to the Landtag. This will, no doubt, be very pleasing to Koch, and will make his return to Berlin, which is expected in a fortnight, somewhat more agreeable than it otherwise would have been.

The new institute is only to have a formal connection with the university, and Koch will have no teaching duties, which he detests. Whether his other suggestions as to the institute are to be carried out or not remain to be seen; but it is rumored that Brieger will not have sole charge of the Clinical Department, that it will be under the administration of the Charité, and that there will be no special pathologist appointed for it.

The pavilions of this new Clinical Department are well advanced; the walls are of a new building material, "plaster boards," and have been constructed at a comparatively small cost. The new institute, on the other hand, is an old, many-windowed building, near the Charité, the inside of which is being torn out to form larger rooms, and the process appears to be a very slow one.

Contributions to the Koch treatment continue to flow into the medical papers, but they contain little which has not already been published. It is important to note the increased hopefulness of the tone of these contributions, which well express the conviction that tuberculin is a wonderful specific remedy, the clinical use of which must be slowly

and carefully studied out. One interesting case is published by Landgraf, of a tuberculous tumor of the iris, in which he was able to follow the process of acute caseation of the tumor which resulted from the treatment. The sight improved, and there is now no prospect of the extension of the tubercular process which, in the ordinary course of events, would soon have rendered enucleation necessary. In the course of the treatment he observed the formation of two miliary tubercles in the iris, which, however, soon disappeared.

Loeffler has recently published an interesting lecture on the clinical interpretation of certain laboratory experiments in diphtheria. He endeavored to imitate in test tubes the action of gargles, (1) from a prophylactic standpoint in times of danger; (2) after the formation of the false membrane.

He used an oblique surface, formed of four parts of ox-blood serum and one part of neutral bouillon, to which 1 per cent. peptone, 1 per cent. grape sugar, and 0.5 per cent. common salt, had been added. The experimental cultures were kept very carefully at blood temperature.

Immediately after a fresh culture was made on such a surface, the surface was washed for from ten to thirty seconds with the remedy to be tested, and the culture then placed for eight days in the incubator. The absence or presence of growth at the end of this time was taken as an index of the prophylactic value of certain gargles, and Loeffler concludes that the most efficacious of these in practice would be a sublimate solution of 1 to 10 or 15,000 for 5 to 10 seconds every three to four hours. Cyanide of mercury, however, in solution of 1 to 8 or 10,000, might be substituted for the above as less unpleasant. He found also efficacious chlorine water 1 to 1,100, and thymol 1 in 500 parts of 20 per cent. alcohol.

For reaching effectually the upper part of the pharynx he recommends Feldbausch's metallic nasal tubes, stopped with cotton impregnated with various essential oils, such as eucalyptol.

The solutions named were found to have comparatively little efficacy if the culture had been allowed to grow in the first place to the thickness of one-half milligram, and thus formed a sort of false membrane protecting the deeper infected surface of the serum.

For the corresponding cases in practice he recommends, in addition to frequent use of the above-named gargles, additional ones every three to four hours, with stronger culture-killing media, such as sublimate 1-1,000, carbolic acid 3 per cent. in 30 per cent. alcohol, and also 2 per cent. carbolic acid in equal parts of alcohol and turpentine. In the intervals pencilling with 5 per cent. carbolic, 2 per cent. bromine, 1 per cent. chlorine, or possibly also concentrated watery solutions of ortho and para kresol.

Much curiosity is felt as to Koch's attitude on his return from Egypt. He may be more communicative as to his methods, but in any case I hope to return to Toronto shortly thereafter.

## Selections.

### THE PRESENT POSITION OF ANTI-SEPTIC SURGERY.

The subjoined letters on the above subject, which we extract from the *University Medical Magazine*, will no doubt be read with interest by the profession:

*To the Editors of the University Medical Magazine:*

GENTLEMEN,—I enclose a copy of the letters which have recently been sent by Mr. Tait and myself to the *British Medical Journal* in reference to the subject of "The Present Position of Antiseptic Surgery." I would call attention to the fact that in the same journal for February 21, Mr. John D. Malcolm notes the want of agreement between some of Mr. Tait's statements as to the behavior of sponges left in the peritoneal cavity and the clinical facts.

He adds: "This is not remarkable when we consider that he avowedly laughs at the knowledge acquired from scientific experiment, and prefers to found his opinions upon the evidence of certain household customs, on which he has put an interpretation, the accuracy of which is not above suspicion."

I am, etc.,

March 18, 1891.

J. WILLIAM WHITE.

SIR,—Professor White replies to my criticism of Sir Joseph Lister's Berlin address, a task which I think I may venture to say had better have been left to Sir Joseph himself.

Fortunately for my present purpose, Professor White puts the issue syllogistically, and formulates for both of us a major premise, upon the truth or error of which depends the whole conclusion: and I accept this issue freely. I say that germs of decomposition exist already in the blood and elsewhere in the body and are ever present, but do not bring about their results till death, or some condition which we call a tendency to death, gives them permission so to do. Professor White says that the elaborate and carefully-conducted experiments of Hauser, Watson Cheyne, and others, completely contradict the statement "which is really the foundation of Mr. Tait's argument."

In reply, I say I care not a straw for elaborate and carefully-conducted experiments, no matter at whose hands, when their conclusions are diametrically opposed to every-day experience. There must be an error in the experiment or in the minds of the experimenters—more probably in the latter. John Hughes Bennett and Arthur Gamgee, with others in the case, must be admitted to be skilled experimenters. By hundreds of experiments they showed that mercury has no action on the liver and secretion of bile, and that the absence of bile from the intestinal circulation of the animals experimented on killed them by slow starvation. But my daily experience and the daily experience of all humble unscientific practitioners like myself shows absolutely that mercury has a very potent influence on the liver and on the secretion of bile. My clinical experience shows, and it is published to the effect, that patients gain weight and improve in health whilst every particle of bile formed by them is pouring out of a fistula in their gall-bladders. Mayo Robson and others have confirmed this: therefore, we laugh at Bennett and his scientific experiments.

In the present case how are we to explain, on the germ theory, the occurrence of abscesses in closed cavities, such as joints or the pleura, or in muscular tissue—or, indeed, anywhere save in open wounds—unless the germ theory is a delusion, or unless germs are omnipresent, and are at times, and for reasons not understood, permitted to wreak their wicked wills? It is perfectly impossible to argue with people who cannot see such a self-evident proposition as this.

But the facts of decomposition—save their immediate microscopic causes—have been known for centuries, and it has been only our want of reasoning power which has prevented us applying the every-day facts of the housekeeper's room to the processes of disease. Let me quote a familiar example. A solid mass of beef—say, a *bed* and *silverside*—is removed from a perfectly healthy ox, and is put at once into a sound and healthy pickle. The pickle is a powerful antiseptic, and if the pickle reaches the middle of that beef before the germs contained in it have had time to start their work, the beef, in a few days or a week or two, will be fit to eat. But every housekeeper knows perfectly well that the result will depend absolutely upon the outside temperature. It would be absolutely impossible to pickle a piece of beef in August, which could be easily pickled at Christmas. Does Professor White imagine that during the few hours—it may be few minutes—that the beef is exposed to the air, it becomes impregnated with germs right to the centre, or is it not more consistent with common sense to believe that the germs were in it before it left the ox; and, therefore, in life? In truth, the facts of the housekeeper and the henwife are far more scientific, that is, far more exact, than those of our biological experimenters. They are in harmony with what I see in my work every day, and, therefore, it seems to me a perfect waste of time to follow Professor White beyond his own major premise, which is utterly mistaken.

I am, etc.,

*Birmingham,*

LAWSON TAIT.

SIR,—As Sir Joseph Lister has usually ignored Mr. Tait's attacks, and as there seemed no reason why he should make the last one an exception, I ventured to reply to it, being impelled thereto not by any sense of peculiar fitness for the task, but by profound respect and warm personal regard for the author and exponent of the antiseptic theory, and by an abiding faith in the truth of that great surgical principle. A specific and utterly groundless charge contained in Mr. Tait's article as to the "deadly and dangerous" character of the double cyanide dressing, with which I have had a fairly large experience, and the use of



which I have been teaching to hundreds of young men at the University of Pennsylvania, supplied a further motive for the reply which, but for these reasons, might well, as Mr. Tait intimates, have been left to abler hands, if not to those of Lister himself.

In the communication in which Mr. Tait answers my paper there is, however, no evidence that he has anything to say which is worthy of Sir Joseph's attention. If his statements were as accurate as they are vigorous, or if the soundness and extent of his information were commensurate with the positiveness of his assertions, he would be a formidable controversial opponent; but the fact that he prefers the arguments as well as the literary style of the "housekeeper and the henwife" to those of biological experimenters materially lessens the value of his utterances. In the discussion of a scientific question of so much practical importance, I personally prefer to be guided by more accurate observations than those made by the average butcher or housewife in putting a piece of even a "perfectly healthy" ox into an equally "sound and healthy pickle!"

My assertion was that "the fluids and tissues of the *healthy* living body are *practically* sterile." Mr. Tait says in contradiction "the germs of decomposition exist already in the blood and elsewhere in the body, and are ever present."

In support of my position, I may cite, in addition to the experiments of Hauser and Cheyne already mentioned, those of Pasteur, Meissner, Koch, Zahn, Fodor, Chiene, Ewerts, Rosenbach, Crookshank, and others, all of which are familiar to bacteriologists, but are useless in an attempt to instruct Mr. Tait on account of his partiality for what he calls "the every-day facts of the housekeeper's room." If he will consent to accept the every-day facts of the surgical ward instead, and will recall the almost invariable absence of putrefactive changes in simple fractures; in uncomplicated synovial effusions; in ovarian cysts; in contusions without solution of continuity; in pleural effusions, etc., he will realize that the germs of decomposition can scarcely be omnipresent, as he claims, as it would be "diametrically opposed to every-day experience," if

their unvarying presence did not oftener give rise to the form of fermentation that we know as putrefaction.

Possibly, when Mr. Tait refers to the occurrence of abscess, etc., in closed cavities, in support of his position, he allows the difference between the germs of putrefaction and the microbes of suppuration temporarily to escape his memory, or, possibly, he purposely ignores this differentiation of such insignificant objects as it rests upon the evidence of gentlemen who waste their time in looking through microscopes and in comparing their observations and testing their results by biological experiment. If Mr. Tait had ever opened a true tuberculous psoas abscess or empyema without antiseptic precautions, he would have had an admirable "practical" opportunity of observing the effect of admitting germs, either of decomposition or of suppuration or both, to a fluid already containing the germs of tuberculosis, and would, perhaps, have avoided the appearance of ignorance as to some of the elementary facts of bacteriology.

There can be no doubt that pathogenic microbes do, now and then, gain access to the tissues of a healthy organism, but they are immediately and almost invariably eliminated by the excretory organs or destroyed by the action of the cells and fluids of the body. The interesting fact (I think, on the testimony of Rosenbach, Kocher, Becker, Krause, Ribbert, Steintal and Kronlein, I may venture to call it a fact, though it is *not* an every-day one) that osteomyelitis occurs in a simple fracture after micrococci have been injected into the circulation, although previously the "omnipresent" germs have exerted no influence, would seem to emphasize the difference between the occasional and accidental admission of pathogenic microbes into a healthy body (which is not denied), and the effect of an increased dose of such microbes upon an organism in which there has been established a *locus minoris resistentiae*.

Possibly in the few cases of empyema, joint-abscess, etc., which are not tuberculous (and therefore dependent upon a specific organism, which I suppose not even Mr. Tait would claim to be ever present), some such infection does occur, but at present demonstrative proof of the exact channel of contamination is want-

ing. It is, however, equally beyond doubt that in many of them an infection atrium exists, communicating with the cavity through the interstices of the tissues, or through the lymphatics. At any rate, it is a matter of common experience that such abscesses are exceedingly rare in non-tuberculous patients. Their occurrence, therefore, offers not the slightest justification for the sweeping assertion of Mr. Tait, who insists that we must either reject the germ theory of suppuration altogether or admit the "omnipresence" of the germs.

As to the "beef and pickle" argument, Mr. Tait surely did not realize that he was offering a "biological experiment" in evidence. If he did so deliberately, I would ask him to let me have the exact antiseptic value of the "powerful" pickle in its influence on both bacteria and spores; the methods used for disinfecting the cleaver and sterilizing the hands of the experimenter; the precautions taken in transferring the "beef and silverside" (whatever that may be) from the ox to the pickle, and such other information as may enable me to defend my major premise properly, or to renounce it if the "facts of the henwife and housekeeper" are really facts and are overwhelmingly against me.

The progressively improving results obtained by such experimenters as Meissner and Rosenbach in the preservation of portions of healthy animal tissue, by placing them with great quickness and scrupulous cleanliness in previously sterilized flasks, show the usual absence of germs in the healthy body, and serve at the same time to explain the failures of some earlier observers. As they acquired dexterity they became able to preserve in this way, without the use of any antiseptic solution, nearly every specimen.

In the face of such evidence as this, confirmed by other investigators, and reinforced by bacteriological study of the blood and tissues, statements as to the omnipresence of the germs and the consequent inutility of antiseptic treatment based on such insufficient grounds as those Mr. Tait advances are puerile. They would be laughable if the question involved was not one affecting human life.

I am, etc.,

J. WILLIAM WHITE.

*Philadelphia.*

**IODOFORM INJECTIONS IN STRUMOUS JOINT DISEASE.**—Prof Krause (Halle) records further results of his experience of this mode of treatment, and has applied it, not only, as previously, to severe and advanced cases, but also to the early manifestations of disease. Within two years he has so treated sixty-one cases, and in twenty-three of these cures have been obtained, while many are still under treatment, or so recent as to give as yet no security of permanent cure. The procedure is briefly as follows: Any abscesses present, whether of the joint or peri-articular, are evacuated through a trocar and canula such as is used for the abdomen; the cavities are washed out with 3 per cent. boric lotion till it returns clear, and then a 10 per cent. solution of iodoform in glycerine (or mucilage, glycerine, and water) is injected till the cavity is moderately distended. The quantity required varies from 10 to 80 grammes. In the earlier non-suppurative stage a smaller trocar is sufficient. After the injection the joint is moved and rubbed so as to diffuse the fluid over the surfaces. After two or three weeks this proceeding may be repeated, and after four to six applications of the treatment, the patients are practically cured with or without ankylosis, according to the stage at which the disease has arrived. During treatment the patients are not confined to bed.—*Edinburgh Medical Journal.*

**TREATMENT OF PATIENTS IN VIENNA.**—Probably one of the earliest impressions made upon an American at Vienna is the difference, carelessness, and even cruelty with which patients are often treated, and this is true of Germany as well as Austria. One sees painful operations done without anaesthesia, when the operator is pressed for time; he sees patients stripped, and then covered simply with towels wet in antiseptic solutions, and exposed to deadly chill during long operations in cold amphitheatres—the patient being often required to leave the room afterwards wet and naked. He sees women submit to vaginal examinations by a class of nine or ten students, her expressions of suffering being often repressed with great roughness; he sees pregnant women, and women already in labor, chloroformed, and measured, palpated, and examined, inside and

out, by classes similarly large, the narcosis terminating with the curiosity of the students. It is often a cause of wonder that so many patients live to establish the reputation of German and Austrian operators, and the question often arises, among the American spectators, whether hospital patients here are not tougher than with us. There is also often a lack of delicacy, not to say decency, in the conduct of hospital work. For instance, it takes the stranger from abroad quite aback to see the male patients of the skin and venereal clinics ushered entirely naked into the presence of the professor by a woman; and dressings and applications, even urethral injections, made by the same unblushing female. But these matters soon lose their early novelty, or are swallowed up in the interest which the great opportunities for observation excite.—*Med. Rec.*

THE OFFICIAL REPORT ON THE USE OF TUBERCULIN.—An official report has been issued by the German Government giving the results of the use of tuberculin in all the Prussian Universities. The report makes a ponderous volume of 900 pages, and contains the results of treatment, by over sixty physicians, of 1,769 cases. The diseases treated include tuberculosis in all its forms. The number of deaths occurring during the treatment was only fifty-five, and these were chiefly of persons suffering from advanced phthisis. In early phthisis there was not a single death. Among the joint cases there were six deaths. The number of cures, however, is also very small, being but thirteen among patients with internal tuberculosis, and fifteen among those with joint tuberculosis and lupus. There were, however, among 951 cases of phthisis, 171 cases markedly improved, 194 slightly improved, and 586 not improved. Among 683 cases of joint tuberculosis and lupus there were 148 considerably improved, 237 improved, and 298 not improved. Even allowing for insufficient lapse of time, and the necessary existence of many severe and ill-suited cases, the results are most discouraging. Among the seventeen hundred cases, one-half were not improved at all. Plainly tuberculin is very far from being the specific from which so much was hoped.—*Med. Rec.*

EXPERIENCE IN THE USE OF AXIS-TRACTION FORCEPS.—Nagel (*Archiv f. Gyn.*, B. xxxix., H. 2). N. has operated with the Tarnier, Breus, and Simpson instruments, and he prefers the latter. He criticises the Tarnier forceps as being clumsy and having too slight a cranial curve. He objects to the Levret lock as superfluous and the tractors as complicated. Moreover, the Tarnier forceps easily slip and are liable to injure the scalp. The Simpson forceps has the advantage that it is light and easily used. It fully accomplishes the objects aimed at in the Tarnier and avoids as far as possible all superfluous attachments. The English lock suffices perfectly in axis-traction forceps since the blades are prevented from springing apart by the action of the fixation screw and the tractors. The construction of the tractors is simple. It is the author's custom to complete the delivery with the axis-traction instrument. The danger of injuring the pelvic floor with the tips of the forceps blades is reduced to a minimum in the Simpson instrument, as the tips do not stand off from the head. Nagel thinks the axis-traction instrument should be used in all cases. While it offers no advantage in the low operation there is no objection to its use in such cases, and the operator acquires a facility that will stand him in good stead in difficult extractions. The danger of the instrument in injudicious hands lies in the fact that it renders possible the use of an unsafe amount of traction force in difficult cases.—*Brooklyn Med. Jour.*

AN EYE TO BUSINESS.—A certain doctor, who was noted for a keen eye to business, was driving along the street of a country town, when his horse took fright and ran away. He was thrown violently out of his trap and rendered senseless. Presently he recovered a little from his unconsciousness, and, noticing the crowd which had gathered about him, asked, "What's the matter, gentlemen? Anybody hurt? I am Dr. B——. Can I be of any service?"—*Med. Rec.*

The German Reichstag has refused to allow women to study medicine in the German Universities, or to practise the same when qualified.



# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

*When a change of address occurs please promptly notify the Publishers, THE J. E. BRYANT COMPANY (Limited), 58 Bay Street.*

TORONTO, APRIL 16, 1891.

## FRACTURES EXTENDING INTO JOINTS.

The treatment of these cases by operation, with a view of restoration of the joint function, is a question which has only admitted of discussion since the introduction of antiseptic methods in wound treatment. It is not many years ago since the accepted doctrine was that when one had to deal with a compound fracture, implicating a joint, the proper treatment consisted in amputation of the limb. At the present time the surgeon is asked to consider the advisability of deliberately converting certain simple fractures, implicating joints, into compound fractures, by cutting down upon the articulation, restoring the fragments to their proper position, removing useless portions of bone, and, if necessary, wiring the fragments together, or securing them by some other means, fixed in a proper position. The question is a serious one indeed, and calm judgment is necessary to discuss it fairly. The man who contemplates such operative procedure, especially in large joints, such as the hip or the knee, must have thorough confidence in his ability to keep the wound aseptic, otherwise he is risking the life of the patient in a manner wholly unjustifiable. Methods of performing aseptic surgery are, however, so perfect that there are few surgeons who scruple to undertake the risk, and undoubtedly the results already obtained by many eminent surgeons justify the attempts which are being made to improve upon the older methods of dealing with these cases. In the earlier history of antiseptic surgery, joints had been opened in the course of operations for badly-set fractures. More recently the question has arisen as to the possi-

bility of improving upon the older methods of treating fractured patella and olecranon by cutting down and wiring the fragments; many cases of the kind have been recorded, and the operation is now accepted by many as the best mode of procedure, especially in those cases where the separation of the fragments is so great and so persistent that it is impossible to obtain good position by simpler means.

Mr. Watson Cheyne has lately put on record four cases of fracture, implicating joints, successfully treated by operation: A case of partial fracture of the head of the radius; the patient did not come under Mr. Cheyne's observation until four weeks after the accident, and at that time the forearm was completely pronated and supination was impossible; the forearm was almost completely extended; a loose fragment of bone was found at the posterior part between the olecranon and the head of the radius. The diagnosis was of partial fracture of the head of the radius, the loose and displaced fragment locking the joint. An incision was made; the loose fragment, which was found to be one-half the head of the radius, was removed; adhesions were broken down and the wound closed. The result was complete restoration of function in the joint. A second case of fracture of the neck of the femur, in a woman *æt.* 52, was successfully treated by opening up the articulation by means of the anterior incision for hip-joint excision; the broken fragments were secured together by pegging, ivory pegs being used. This method of operating by pegging was, in reality, first suggested by Senn, but was never carried into practice before Mr. Cheyne's case was treated. A third case was that of fracture of the olecranon, the coronoid, the external condyle of the humerus, with dislocation of both bones backwards. A free incision was made, the fragments of the olecranon wired, some loose fragments of bone removed, and the dislocation reduced. The case progressed favorably and good movement in the joint obtained. A fourth case of old standing dislocation of the patella, with fracture of the projecting edge, was treated by operative interference; a loose fragment of bone removed and adhesions broken down. The patient recovered good use of the joint and was able to flex it to a right angle. The case reported in the proceedings of the Toronto Medical

Society by Dr. Atherton illustrates the good results which may be obtained under very unsatisfactory conditions: the case was that of compound comminuted fracture of the patella, treated by wiring the fragments and careful cleansing of the joint; the result was perfect restoration of the function of the articulation.

### THE PRESENT POSITION OF ANTI-SEPTIC SURGERY.

Our readers will probably remember Prof. J. William White's address on antiseptic surgery which was delivered at the Post-Graduate Course of the University of Toronto in December last, and published in the *Annals of Surgery* and *THE PRACTITIONER* of January 1st. It was a reply to Mr. Tait's criticism of Sir Joseph Lister's Berlin address. We publish in this issue some correspondence on the subject, taken from the *University Medical Magazine*, which will be read with interest. Dr. White's letter is strong, able, and practically unanswerable. Mr. Tait's letter is lamentably weak, being scarcely up to the average of other recent utterances of his on the same subject. Probably most will agree that the time has now arrived when Mr. Tait would do well to refrain from any further discussions on the scientific aspects of surgery.

### KOCH'S LYMPH.

Koch's lymph, or tuberculin, is now supplied to chemists, who may sell it under certain restrictions. Dr. Libbertz will continue to prepare the lymph under the direction of Professor Koch. It will be sold in sealed bottles containing from one to five cubic centimetres with date of preparation marked. It should not be sold six months after such date, but the bottles may be returned to Dr. Libbertz, who will exchange them for new ones without extra charge. The price will be six marks (shillings) for a cubic centimetre, and twenty-five marks for five cubic centimetres.

ADMISSION OF WOMEN STUDENTS TO THE EDINBURGH ROYAL INFIRMARY.—From the *Edinburgh Medical Journal* we learn that at the meeting of the managers held on 9th February, it was resolved to admit women students of medicine to the Royal Infirmary; and it was

accordingly remitted to the medical and surgical staff to give effect to the decision arrived at, which was as follows:—1, Ward visits and clinical lectures shall be given to female students separately from the male students; 2, mixed clinics may be allowed (on the choice of the lecturers) on special subjects, such as eye, ear, throat, and skin; 3, that under no circumstances whatever shall any ward be utilized twice in the same day for clinical instruction; 4, that, as far as possible, no interference shall be attempted with ward clinics and lectures already arranged for male students; 5, that at present, or till their numbers exceed thirty, the women students shall keep together in one unit for clinical instruction, thus requiring only one ward or theatre for their instruction at any given time; 6, all women students, before receiving their hospital tickets, must sign a declaration that they will conform to the special rules made by the managers for their instruction.

### OPHTHALMOLOGY AS A COMPULSORY SUBJECT.

—The Ophthalmological Society of the United Kingdom are attempting to make attendance upon a special course of instruction in diseases of the eye compulsory. This matter is being ventilated at present because of the fact that there is considerable likelihood of the course of medical instruction in Britain being extended to five years, and thus more time will be available for special work. A committee of the Ophthalmological Society has been appointed to wait on the General Medical Council to urge the opinions expressed in the following motion:—“That in view of the course of medical study extending over a period of five years, it is expedient that the Ophthalmological Society of the United Kingdom urge upon the General Medical Council the desirability of making the subject of ophthalmic medicine and surgery a compulsory part of the ordinary curriculum.”

LEMONADE-WINE.—Dujardin-Beaumetz, in the *Bulletin Général de Thérapéutique*, January, 1891, recommends the following drink in typhoid fever and other febrile states:

|                |            |
|----------------|------------|
| R.—Red wine,   | ½ pint.    |
| Tartaric acid, | 2 drachms. |
| Water,         | 1½ pints.  |

## Meeting of Medical Societies.

### THE TORONTO MEDICAL SOCIETY.

March 19th, 1891.

The President, Dr. Spencer, in the chair.

Dr. Dame reported a case of

#### CHRONIC PURULENT CYSTITIS.

The condition had existed for nine months. A large quantity of pus is passed in the urine daily. The treatment employed has been that of washing out the bladder with iodoform. A solution of argentic nitrate and other washes have been tried, but the improvement in the case has been slight.

In speaking of the case, Dr. Powell stated that he had found iodoform very useful in such conditions. Dr. Sweetnam has used boryglyceride in rather weak solution with good effect both in gonorrhœal and in ordinary cystitis. The solution he uses once daily.

Dr. Spencer narrated the history of a case in which he had employed

#### OXYGEN INHALATION FOR DYSPNŒA.

The object was to relieve a sudden attack of dyspnœa which came on, in a case of pleurisy, so suddenly that, at the time, it was thought to be due to heart-clot. The blueness and distress of breathing disappeared. Forty-eight ounces of serum were subsequently withdrawn from the right chest.

Dr. McPhedran read a paper on

#### LARYNGEAL DIPHThERIA IN THE ADULT.

(This paper appears at page 180 of THE CANADIAN PRACTITIONER.)

In the discussion which followed, Dr. Palmer strongly advocated the identity of laryngeal diphtheria and membranous croup, both from pathological and clinical evidence. Loeffler's bacillus has been discovered in the throats of healthy children and in throats of patients suffering from measles. Klebs has discovered a micrococcus in some cases and in others a bacillus. Dr. Palmer does not quite believe that there can be the presence of the diphtheritic virus without the formation of membrane. Preventive treatment] he considers the best. He considered the best local remedies to be salicylic acid, citric acid, and citron juice.

Dr. Sweetnam spoke of the comparative value of tracheotomy and intubation. He firmly believes in the superiority of the latter. He has had five cases of tracheotomy, all fatal; and of seven cases of intubation three have recovered. Intubation interferes less with feeding and with medication than tracheotomy.

Dr. Spencer asked how much time should be allowed to elapse before a patient after recovery from diphtheria should be allowed to mix with others. He referred to one instance in which six cases had resulted by the disease having been communicated from an individual who had been isolated for four weeks.

Dr. McPhedran, in reply, stated that his practice was to keep patients isolated for four weeks after recovery from the disease, making sure that the throat is healthy. The time-guide should not be trusted to alone.

March 26.

The President, Dr. Spencer, in the chair.

Dr. Harrington, for Dr. A. Jukes Johnson, presented a specimen of

#### GELATINIFORM CANCER OF THE STOMACH.

Dr. Johnson, who was called to see the patient shortly before her death, learned that there had been previously an attack of peritonitis and a condition of cirrhotic liver was suspected. On examination *post mortem* the stomach was found adherent to the abdominal wall and to the adjacent gut. There were peritoneal adhesions throughout the abdominal cavity generally. The stomach was shrunken and the wall was found to be one inch in thickness; the pancreas was adherent to the stomach posteriorly, and was incorporated so closely with the viscus that it seemed to form a portion of the stomach wall. The new growth was most marked towards the pyloric end of the stomach.

Dr. Spencer exhibited a child suffering from

#### MACRO-GLOSSIA.

The tongue protruded between the lips and teeth and could not be drawn within the mouth. The child was three years of age. She has a sister æt. nine, with a condition very similar, but the latter is mentally deficient. In the child exhibited the lower and upper extremities are unusually large, simulating a condition of elephantiasis.



Dr. Prinrose showed a photograph of a child presenting the same condition. He stated that in these cases the lymphatic spaces and vessels are found to be enlarged, and there is hypertrophy of the connective tissue; in this respect the condition of macro-glossia resembles elephantiasis in its pathology, and it is interesting to note that in Dr. Spencer's case the limbs exhibit some of the characteristics of elephantiasis.

Dr. Fere suggested ligation of the lingual artery as a means of diminishing the blood supply to the part.

Dr. Atherton showed a patient who had suffered a

COMPOUND COMMINUTED FRACTURE OF THE  
PATELLA.

He had received the injury by a kick from a horse, the knee being bent at the time. The patella was broken into four fragments; the upper portion of the bone remained intact, the lower portion was splintered into three pieces, and the fragments were separated three-fourths of an inch. By means of two silver wire sutures the pieces were brought together, the joint was washed thoroughly with 1-40 carbolic lotion. Drainage of the joint was secured by a tube passed to the surface through the posterior portion of the articulation, and a superficial drain was inserted in front. The latter was removed on the fourth day; the former was retained one week. The leg was retained at rest on a posterior Gooche splint and the leg elevated. The patient suffered no pain after the first two days. There was no pus formed at any time; the highest temperature was 100.3 F. on the morning after the accident; it gradually fell to normal. The dressings were changed four or five times during the first ten days, and then left undisturbed for ten days. One month after the accident he was allowed to sit on a chair; eight weeks after the accident a leather splint was applied and he went about on crutches. During the tenth week he was allowed to walk about the street on crutches. On October 25th (eleven weeks after the accident) the wire was removed in consequence of irritation; good bony union had taken place. On February 20th the patient was able to flex the joint to a right angle, and was going about attending to his business as usual.

Dr. Spencer showed a patient who had had a  
CYSTIC TUMOR DISCHARGING CONTENTS INTO  
THE ALIMENTARY CANAL.

Three years ago she had a tumor in the left hypochondriac region, causing displacement of the heart and dyspnoea. It enlarged during the menstrual periods. Before the tumor appeared she used to suffer from what she called "bilious attacks" and vomited mucous material on these occasions. She was in the General Hospital for a time and the tumor diminished somewhat under treatment. Last summer Dr. Spencer passed a hypodermic needle into the tumor with negative results. Two months ago, while hanging up clothes on a line, the tumor seemed to collapse suddenly; the same evening she said she passed "corruption" by the rectum and vomited a similar material. Since that time she has passed at intervals like material per rectum, but there has been no return of the tumor. Some of the vomited matter was exhibited: it was a mass of trembling, jelly like material, apparently mucoid in character.

Dr. McPhedran exhibited a patient suffering from

PRIMARY MUSCULAR ATROPHY.

The patient is thirty-two years of age; the trouble began seven years ago. His elder brother died at the age of twenty-six years (nine years ago) of the same disease. The wasting of the muscles, which is marked, began in the forearms and has extended gradually. It now involves most of the muscles of the body. There is typical "wrist-drop"; the supinator longus is entirely gone. There is little strength in the trapezius, biceps, coraco-brachialis, pectorals, latissimus dorsi, supra and infra spinatus, and all these muscles are markedly wasted. On the other hand, the levator anguli scapulae, rhomboids, and teres muscles, are all fairly good. The serratus magnus is atrophied, and the "winged scapula" is present. The muscles of the neck (except the trapezius) are not affected. The face muscles are involved, especially on the right side, as observed when he attempts to whistle; the eyes are widely open and he cannot close them firmly. The leg muscles are involved, especially on the right side; the superior groups are more affected than the

posterior. The respiratory and abdominal muscles are not involved. There is control of the rectum and bladder; the muscles of the palate, pharynx, and faeces, are all right; speech is not clear, but probably the condition of the lips accounts for this. The tongue muscles are normal. The muscles of the hand are not affected. There is no derangement of sensation; the reflexes are weak, but not abolished. There has not been much change in the man's condition for the past two years. The faradic and galvanic electrical reaction are normal as far as ascertained; there is no reaction of degeneration.

Dr. Graham considered this a rare form of disease. His attention had first been called to the condition a year ago by Dr. Pringle. There are one or two points in which this case does not correspond with the cases previously described. (1) There is apparently fibrillar twitching in this case. (2) There are also spasmodic contractions of muscles. These conditions have not been described in primary muscular atrophy. The condition of the mouth muscles might be thought due to bulbar paralysis, but there is no dysphagia. The case is probably one of primary muscular atrophy. The fatal termination in these cases is usually due to some intercurrent condition, frequently tuberculosis.

Dr. McPhedran stated that he is not satisfied with the present view as to the pathology of the condition. How could muscles atrophy primarily if the trophic nerve supply were normal? It is probable that in future some nerve lesion will be found. The disease in all probability begins in the nervous system, and the muscles atrophy secondarily.

Dr. McPhedran then exhibited a case of  
ELEPHANTIASIS LYMPHANGIECTODES.

A boy, ten years of age, in whom one leg (the left) is one inch longer than its fellow, and there is a general increase in the size in the whole limb as compared with the other. The boy had two attacks of pain and swelling of the limb when an infant, and a third attack when three years of age. The prepuce is hypertrophied; the lengthening of the limb is uniform in all parts. The pathology of the condition is probably that it is due to some obstruction in the lymphatics.

Dr. Primrose spoke of the pathology of the disease. He was not satisfied with Dr. McPhedran's view that it was due to lymphatic obstruction. He quoted Cohnheim in stating that the lymphatics of the limb may be entirely obliterated without even causing oedema. He was inclined to regard Dr. McPhedran's case as one of true hypertrophy, due to increase of blood supply to the part. He did not think it a case of ordinary elephantiasis, where the subcutaneous tissues are chiefly affected in the enlargement of the limb.

Dr. Graham referred to two cases of a similar character which had come under his observation. The condition has been well described by Hebra as elephantiasis lymphangiectodes. It differs from the ordinary elephantiasis arabum in several points, one of which is the fact that it is usually congenital in origin.

Dr. Cameron had seen similar cases, and he considered the question of the pathology of the condition proven. Cutting off the blood supply is the most rational method of treatment. It has been found that the state of the limb may be associated with lymphatic obstruction; the question is whether the hyperæmia in elephantiasis is primary or secondary.

Dr. Peters referred in his remarks to the treatment. Elephantiasis arabum has been treated for many years by ligation of the main artery of the limb. A Dublin surgeon was the first to practise this, and he dressed several cases successfully. The plan of treatment seems advisable in this instance. The disease is certainly not elephantiasis arabum, because the parts are all equally enlarged, proportionately throughout the limb. All the circumferences are increased; the soft parts and bones are proportionately enlarged. Dr. Peters looks upon the case as hypertrophy rather than elephantiasis. The prepuce shows dilated lymphatics; also a cutaneous patch below the patella presents a similar condition.

April 2.

The President, Dr. Spencer, in the chair.

Dr. C. O. Ryerson read a paper on

#### THE MEDICAL ASPECTS OF JAMAICA.

There is great diversity of temperature in Jamaica, varying from 80–86° at the sea coast to 45–50° on the tops of the mountains, com-

bined with a peculiar dryness, which renders the climate of the mountains particularly delightful; this remark is specially applicable to the Santa Cruz mountains. In this favored region the average maximum temperature is 75°, the minimum 66.8°, mean 71.1°. The record of the rain-fall goes to show that Jamaica possesses a comparatively dry climate. May and November are the two wet months as a rule. The climate is said to be very similar to that of Algiers. A consideration of these various points about the climate leads one to conclude that the island is an excellent health resort for consumptive patients, and so it has proved to be. There is warmth, dryness, lightness of atmosphere, a small range of temperature, and invigorating sea and mountain air.

There are certain thermal springs on the island. The bath of St. Thomas—alkaline in character—is specially good for the treatment of rheumatism, scrofula, and syphilitic skin diseases, also for gout. The Milk River bath is one of a similar character. There are two strong chalybeate springs and a sulphurous spring on the island.

In the Government medical service there are eighteen hospitals, with one large central hospital at Kingston of 350 beds. The pay of medical officers varies from £100 to £1200 per annum.

The quassia tree grows on the island, and patients collect their own chips and make infusions. There are quite a number of Canadians practising there. Of the endemic diseases, there is that produced by an insect known as the jigger; it gets into the foot and produces indolent sores; when neglected these cases sometimes result in tetanus. Frambesia is common. Leprosy is not uncommon and syphilis by no means so. Gonorrhœa is remarkably severe and even proves fatal at times. Reynaud's disease sometimes occurs. Malarial disease is of course the most common; sometimes the symptoms simulate locomotor ataxia, but quinine and arsenic effect a cure. Yellow fever has been very rare on the island since the institution of proper hygienic measures. Fragilitas ossium occurs in Jamaica—a disease in which the bone becomes so fragile that it is easily fractured by slight muscular violence. A case in Kingston hospital was seen where there had

been fracture of the clavicles, humerus, several ribs, and the neck of the femur; union was obtained without difficulty. The natives prefer "bush-doctors" to white physicians; they are very superstitious and believe firmly in "duplicates," "loogaroos" or "vampires," "love-spells," etc.

Dr. Spencer spoke of Jamaica as he found it in 1871. Yellow fever was by no means rare at this time, and small pox was still more common. Since then Jamaica has become quite a health resort.

Dr. Graham spoke of a peculiar disease which occurs in Jamaica, characterized by a furrow forming around the toe; this becomes deeper and deeper until eventually the toe drops off. At one time it was thought to be due to mutilation, but now it is believed to have a special pathological history.

Dr. Machell was glad to learn that the temperature on the island varies so little. Why is it that we send consumptive patients away to Southern California, when we can send them nearer home and give them the benefit of a sea-voyage into the bargain?

Dr. Oldright, in referring to the stamping out of yellow fever, stated that in Jamaica we have one of the notable instances of diminished death rate after improvement in sanitary conditions.

Dr. Greig asked if beri beri were common in Jamaica, and referred to the close relation this disease has to multiple neuritis.

Dr. Ryerson, in his reply, confirmed the remarks which had been made concerning Jamaica as a model health resort for consumptives and those suffering from bronchial troubles.

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## Hospital Reports.

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### LARGE URINARY CALCULUS REMOVED FROM BLADDER PROLAPSED WITH UTERUS AND RECTUM.

BY JAMES LESLIE, M.D.,  
St. Joseph's Hospital, Hamilton.

Mrs. G., æt. 56 years, widow, mother of several children. Has suffered from falling of the womb for twenty-five years. This has been increasing, and when seen on 25th January,



1889, she had incontinence of urine, constipated bowels, and could with difficulty lie or walk. Her easiest position seemed to be half reclining and resting on the right hip near the edge of a chair, with the legs separated. A protruding, irreducible tumor, with a whitish, hard, dry surface, excoriated at several points, presented from between the labia. It measured from attached and smaller end behind to free and larger end, where os was, six and a half inches, and from os to attached end in front six inches, the circumference at thicker end being twelve and three-quarter inches. An examination revealed prolapsed bladder and rectum with complete prolapse of vagina and uterus. The prolapsed bladder contained a calculus. While under the influence of chloroform an incision was made into the bladder in mesial line from its neck towards its fundus, and the calculus removed. The wound was closed by interrupted sutures of silk, and the protruding mass returned to its normal position. Ten days afterwards, when the patient was up and straining at stool, prolapsus of the unsupported uterus, etc., again took place, and when reduction was being effected the recent union of the incised wound gave way, and thus was established vesico-vaginal fistula. The calculus measured at its greatest circumference six and five-eighth inches, and at its least four and a quarter inches, and weighed eight hundred and eighty-four grains. On 10th October, 1890, she was operated upon in St. Joseph's Hospital, Hamilton, for vesico-vaginal fistula, and on 29th October, 1890, left for her home cured.

The above report is attached to a urinary calculus in St. Joseph's Hospital Hamilton.

### Personal.

PROFESSOR HARTNACK, of microscope fame, is dead.

DR. S. STEWART contemplates leaving Wallaceburg.

DR. OSLER spent a couple of days in Toronto at Easter.

DRS. J. E. GRAHAM and A. A. MACDONALD, of Toronto, visited Baltimore, April 2nd, and remained about ten days.

## Births, Marriages, and Deaths.

### BIRTHS.

GREENWOOD.—At St. Catharines, on Thursday, March 26th, the wife of Frederic Greenwood, Esq., M.D., of a son.

GRAFTON.—At 540 Spadina Avenue, April 4th, the wife of Dr. C. Steuart Grafton, of a son.

WRIGHT.—At Oak Lake, Man., the wife of Dr. Henry Wright, of twin daughters.

### DEATHS.

GRAY.—At Riverside, Montana, on Easter Sunday, March 29th, Harry H. Gray, M.D., late of Toronto, in the 27th year of his age.

## Therapeutic Notes.

CREOLIN IN INFANTILE DIARRHOEA. According to *La Semaine Médicale*, Schwinn recommends the following mixture for infants who are suffering from diarrhoea:

R.—Creolin . . . . . 1 to 3 drops  
Cinnamon water . . . . . 2½ ounces.  
Syrup . . . . . 1½ ounce.

Mix, and administer a coffee-spoonful every two or three hours. For older children, the following may be employed:

R.—Creolin . . . . . 15 grains.  
Sugar . . . . . 75 "

Mix, and divide into from five to ten powders, and administer from one to two powders each day.—*Med. News.*

AN EMULSION FOR TAPEWORM. —*La Semaine Médicale* gives the following prescription of La Merz for the treatment of tapeworm:

R.—Extract of male fern, 1½ drachms.  
Calomel. 7 grains  
Distilled water 1 of each  
Syrup of gum arabic 1 of each ½ ounce.  
Powdered gum arabic, a sufficient quantity to make an emulsion.

Before this mixture is administered it should be well shaken, and the patient should be directed on the day previous to its use to subsist entirely upon a milk diet. It is stated that the worm will be expelled in from thirty to forty minutes after the administration of this medicament, if these directions are carefully followed. In children aged from six to twelve years, one-half this quantity should be given.

## Miscellaneous.

RESULTS OF RECENT EXAMINATIONS IN MEDICINE.—QUEEN'S UNIVERSITY.—The following students of the Royal College of Physicians and Surgeons, Kingston, passed the first examination at Queen's University:—Geo. Burrows, James Brady, J. M. Campbell, Andrew Carmichael, Sidney M. Davis, E. B. Echlin, B.A., W. A. Empey, Ignatius F. Foley, John F. Fowkes, Robert J. Gardiner, William W. Genge, James F. Gibson, Samuel D. Green, Andrew Haig, M.A., Edgar D. Harrison, D. Herald, W. J. Johnston, John F. Kennedy, William Kidd, Frank C. Lavers, George P. Meacham, John Moore, Allan E. McCall, B.A., John A. McCuaig, Duncan N. McLennan, James McLellan, J. Evan McNee, Jeannette Murray, John H. Oldham, Margaret O'Hara, Nelson Raymond, E. B. Robinson, Michael D. Ryan, William J. Scott, James E. Spankie, W. A. Stewart, Archibald J. Valleau, Jeannette Weir, James W. White, Arthur C. Wilson.

Herbert A. Parkin has passed all his classes, and will receive his degree on reaching the age of 21 years.

The hospital surgeons are: Messrs. Thomas H. Balf, Smith's Falls; Isaac Wood, B.A., Kingston; A. Lockhart, Kingston.

The first year silver medal was won by Walter T. Connell, Spencerville.

The Robson-Roose prize in Pathology was won by Andrew Haig, M.A., Meine.

The Rivers-Wilson prize in Sanitary Science and Jurisprudence was won by J. W. Campbell, of Toronto.

TRINITY UNIVERSITY—*Primary Examination*.—Certificates of honor—C. B. Shuttleworth, first silver medallist; J. T. Robinson, second silver medallist; H. J. McGill, C. McPhail, R. V. Fowler, W. Glaister, R. Brodie, C. H. Bird, R. E. Macdonald, A. B. McGill, T. Douglas, E. Tomlinson, F. J. Burrows, W. H. Cartwell, B. N. Coates, D. D. Wickson.

Class I.—W. Andrews, T. J. Dunn, R. E. Darling, J. K. M. Gordon.

Class II.—N. Campbell, E. Orton, R. S. Dowd, W. H. Tufford, J. R. Bingham, H. J. Denovan, W. Doan, J. C. Stinson, J. B. Ferguson, W. J. Ross, Miss M. M. Brander,

J. J. P. Armstrong, W. J. Arnott, W. C. Belt, J. A. G. Wilson, F. W. Mulligan, Miss N. Rodger, T. W. Carland, W. A. Thomson, M. S. Lane.

Class III.—R. T. Corbett, J. H. Duncan, G. D. M. Ruthven, P. J. Maloney, Miss J. Ryan, W. J. Proctor, H. H. Alger and H. P. R. Temple equal, J. E. King, J. R. Rosebrough, J. Bowie, C. Carter, A. B. Singleton, N. Anderson, M. J. Farrish.

*Final Examination for M.D.C.M.*—Certificates of Honors—J. Third, gold medallist; J. T. Fotheringham, silver medallist; C. Mackay and J. Sutherland and C. A. Temple equal; R. Knechtel, C. C. Fairchild, J. R. Walls.

Class I.—W. D. D. Herriman and T. C. Irwin and D. C. Jones equal; J. B. Martyn, D. Johnson, W. Montgomery, J. J. Moore, W. G. Sprague and R. H. White equal; G. D. Farmer and F. A. Quay equal; A. A. Sutherland, G. R. Mark and H. A. L. Reid equal.

Class II.—Miss L. K. Mead, T. S. Glenn, J. A. Ashbaugh, A. C. Hunter, A. W. Nixon, J. C. Suter, F. R. McBrien, W. J. Scott, J. W. Shaw, P. Robertson, C. F. P. Abraham, J. J. Danby, J. Crooks, Miss L. Graham, R. Archer, J. McQueen, T. S. Farncombe, J. N. Oldham.

Class III.—W. E. Brown, Miss M. A. Griffin, A. E. Henry, W. A. Macpherson, J. T. Kennedy, F. L. Switzer, D. B. Alexander, A. W. Bell, F. E. Spilsbury, A. J. Murray, W. J. Awty, L. E. Bolster, D. B. Bentley, A. H. Hough, J. P. Russell,

*The Medical Record* says Mexico has nine medical schools, in each of which the course of study is six years.

Hot claret is said to be a good gargle for acute sore throat.

Dr. Libbertz states that in the preparation of tuberculin it is impossible to prevent isolated tubercle bacilli from occasionally, though very rarely, getting into the liquid, but that action of long continued boiling heat has rendered them perfectly harmless.

The 59th annual meeting of the British Medical Association will commence July 28th, at Bournemouth.

# THE CANADIAN PRACTITIONER

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## Original Communications.

### INFANT DIETARY, WITH SPECIAL REFERENCE TO STERILIZA- TION AND EXHIBITION OF APPARATUS.

BY W. J. GREIG, B.A., M.B., L.R.C.P. LONDON.

It is not the object of the writer to discuss the subject of Infant Dietary in a general way, or to refer to the merits of the different articles of infants' food, except incidentally, but to bring before you a comparatively new method of preparing food, known as sterilization. Sterilization means the killing of germs. The remarks and conclusions of this paper are especially applicable to infants whom it has been necessary to deprive of their mothers' milk.

The subject is by no means a new one, Dr. Jacobi, of New York, having years ago laid before the profession the necessity of boiling milk for bottle-fed children. It is only during the last few years, however, that the matter has been prominently brought forward. To my knowledge, neither by any medical journals nor by any paper read at a medical society in Ontario has sterilization been dealt with; and aside from its importance and the deep interest which the writer feels in it, this is my reason for bringing it before you. There is an immense literature on the subject of infant dietary, and by all authorities it is acknowledged that the mother's milk is the proper food for an infant. But many circumstances may arise to

interfere with the nutrition of the child in the natural way, and it is then that the question of a substitute food becomes all important, and the relative merits of ass's, goat's and cow's milk, and of the various infant foods, are discussed. Comparing the constituents of these articles of diet with mother's milk, it is found that ass's milk bears the closest resemblance, goat's next, and then cow's. But owing to the accessibility of the latter, it is the food generally used. When cow's milk is altered in various ways, it can be made almost exactly similar in constituents to mother's milk. Nevertheless in practice, in warm weather, cow's milk does not agree as a rule with infants. Indigestion, diarrhoea, and inflammatory troubles are too often set up. These occur more commonly in cities and towns, so that for years it was thought that the heat and bad hygiene were the causes. But why infants under six months of age should be exempt while other children in the same family should suffer could not be explained. Of late years, since the common acceptance of the germ theory of disease, other ideas of causation have crept in, and while we still believe that heat and bad hygiene are the causes, acting as they do by lowering vitality and hence interfering with the functional activity of the alimentary canal, yet they have another and more important effect *on the food*.

A few years ago Dr. Siebert, of New York city, investigated the relation of heat to the summer troubles in children. His investigations extended over a number of years, and he



found that in very hot summers the infant mortality was no greater than in summers of medium heat. He noticed the fact that as soon as the outdoor thermometer registered 60° and remained at that for some days the trouble began. Now, milk begins to turn at 60° F., and as milk was and still is the chief article of infant dietary, the conclusion was natural that the food had a good deal to do with the trouble. He also noticed that breast-fed children, as a rule, were exempt. His conclusions have been verified by other researches.

Weinert claims that of 602 fatal cases recorded by him only 24 were breast-fed, cow's milk being the food of the balance.

Holt states that of 431 cases only twelve per cent. had been breast-fed. Hope, of Liverpool, states that of one thousand fatal cases only thirty had the breast exclusively. Ballard states that of three hundred and forty-one fatal cases only seven had the breast. That is, out of one thousand nine hundred and forty-three cases only ninety-nine, or about four per cent., had been fed on the breast alone.

These statistics bear out the statements of Dr. Siebert, because mother's milk is not affected by the heat in the same way as cow's milk, and hence the low mortality in breast-fed children; moreover, children fed during cold weather on cow's milk generally do well. Hence our conclusion that the action of heat on the cow's milk is the chief cause. Vaughan, of Ann Arbor, was the first on this continent (to my knowledge) to draw attention to the presence of a chemical prism in milk, which was being fed to a child suffering from cholera infantum. He has published a number of similar cases since. From this milk he was able to separate a substance which crystallized, and which when fed to rabbits produced diarrhoea and vomiting. He named it tyrotoxin, and was able to group it in the diazo-benzol series. He has been able to produce this poison artificially, but has not yet ascertained definitely the exact germ on which the development of tyrotoxin depends. His contention was that this poison was one of the pathogenic organisms of cholera infantum, but only one of a class which were cathartic in nature and all of which were liable to develop in milk.

This brings us to the central point of the

paper, viz., the view that the presence of bacteria in the intestinal canal is the cause of the different kinds of diarrhoea, and these bacteria produce this result by a toxic ptomaine which is thrown out by them in the process of digestion. Certain antecedent conditions may be necessary to produce these symptoms—such as a vitality depressed by heat and bad hygiene, or a functional indigestion produced by too frequent feeding, improper food, or failure of the digestive powers for any reason. Result the same always—a partially digested mass of food, which at the body temperature rapidly ferments, and thus a fitting soil is furnished for bacterial growth.

Let us review briefly the evidence in favor of this contention:—

1. Diarrhoeas begin when the temperature rises to 60° F., at which temperature milk begins to ferment.
2. Children in the country are comparatively free, because they can always have fresh cow's milk. Breast-fed children have been shown to be very free.
3. Cow's milk agrees fairly well, in cities and towns, with children in cold weather; but in milk carted long distances and thus placed under conditions favorable to bacterial growth, and in warm weather, these diarrhoeas begin.
4. Actual discovery of a toxic poison known to result from the activity of germ life, which was being fed to a child suffering from cholera infantum, and which ptomaine, when fed to animals, produced the symptoms of cholera infantum.
5. There is undoubted evidence that impure milk, in which germ life is always active, will produce these summer diarrhoeas.
6. Several varieties of these summer diarrhoeas are infectious.
7. Bacteria can produce intestinal disturbance, e.g., the typhoid bacillus, the tubercle bacilli, and the comma bacillus of Asiatic cholera.

All these facts point very strongly, in fact positively, to the bacterial causation of these summer diarrhoeas, but we are not able yet to specify the particular type of bacillus which causes any particular form of diarrhoea. In the faeces of a healthy suckling child two bacterial forms are found, viz., the bacterium lactis

ærogenes, which is suffered to inhabit the upper bowel and assist in the breaking up of the milk sugar, and the bacteria coli commune, which is found in the lower bowel.

In the fæces of diarrhœa enormous numbers of bacteria are found, and notably certain forms are found to predominate in certain forms of diarrhœa. None of these bacteria grow in ordinary hydrant water, but all flourish in milk. I might say that one variety predominated and was found almost constantly in enteritis and cholera infantum. In the latter a liquefying bacillus was found which, when cultivated and injected into the veins of rats, caused death by purging and vomiting.

It is well known that certain diseases are communicated to others by milk, viz., typhoid, diphtheria, scarlet fever, etc., but a pre-existing case has always been supposed. Late investigations would seem to indicate that animals themselves may have these diseases. There appears to be no doubt that cow-pox in cattle is a similar disease to small-pox in man.

Lately epidemics of scarlet fever have occurred in which the suspicion existed that the contagion came from the cows themselves, who were suffering from a disease resembling scarlet fever. These outbreaks were at Hendon and Wimbledon in England. Prof. Klein reported to the local government board that the cows were suffering from a disease similar to scarlet fever. This was afterwards denied by another expert. The matter is still *sub-judice*, and whatever the result, it teaches us to be careful of our milk supply. Again, Louis Park states that a disease resembling diphtheria has been found in calves. He also states that diphtheria has been transmitted from farms and dairies in good sanitary condition and carefully kept, where there was no pre-existing diphtheria. In such cases it was natural to look to the cows themselves as the source of the disease.

An extensive literature has sprung up lately in regard to tuberculosis in milch cows. It is claimed that ten per cent. of all cows suffer from tubercle, and twenty-five per cent. of cows kept in towns. To impart the tubercle bacillus to their milk, the udders must be affected, and this is very likely to be in some cases. Hence the evident danger, especially in milk from town or city fed cows, to infants whose organs are

still in an undeveloped condition and therefore very susceptible to disease. Park states that five per cent. of the mortality of children under five years of age, whose diet presumably is chiefly milk, die of tuberculosis of the abdominal cavity. He adds:—"The present amount of knowledge on the subject of animal diseases is so limited and unsatisfactory that until dairy cows are under sanitary control, or until these diseases are better understood, more care must be taken with milk as an article of infant dietary."

I would like to sketch rapidly the course of milk from the time it leaves the cow until it reaches the consumer, to give an additional motive for sterilization. Dirty milking methods, diluting the milk with water from the barnyard pump, cans not too scrupulously clean, put into the cans while still warm—thus having a suitable temperature for bacterial growth, and then a rapid and rough ride on a wagon to the train or through the town, and lastly, the delivery through the city by dirty milk boys. The driver stops before a house, takes off the can lid and fills his measure. During this time the wind is carrying mud from a neighboring waste heap, or from the street, and deposits it, loaded as it is with dangerous bacterial life, in and around the milk can. Ask Dr. Prudden, of New York, or Louis Park, what this street dust chiefly consists of, and they will answer, organic debris from powdered horse droppings. After the milk is taken into the house, it is allowed to stand in open vessels and it very rapidly absorbs gases of different kinds.

We will now consider briefly the changes that sterilization produces in milk:

1. It kills all germs.
2. Sterilized milk forms in the stomach fine flaky curds, which are easily digested. Cow's milk, taken pure, curdles into a putty-like mass. This has always been a difficulty in feeding infants with cow's milk, even in winter time, and various means have been adopted to prevent the formation of this indigestible curd. Sterilization effectually answers the purpose.

Escherich claims that there is no practical difference between sterilized cow's milk diluted in proper proportions, and human milk, the chief change being made in the curd.

3. A recent article in the *Medical News*,

based on a careful analysis, states that the following chemical changes take place in sterilized milk :

(a) Coagulations of albumin, which may render the milk more difficult of digestion.

(b) Interference with the coagulability of milk by rennet, and presumably, therefore, with its digestibility by the gastric juice.

(c) Globules of fat in milk are enclosed in a pellicle of albumen. Sterilization has the effect either of freeing the fat from its albuminous coating, or coagulating the albumen and thus enclosing the fat globule in a less easily destructible envelope. In the former case, the free fat is not easily assimilated ; in the latter, the fat is slow of digestion and probably not fully absorbed.

All these difficulties are easily overcome by a partial predigestion of the milk before sterilization with pancreatine and sod. bicarb., or with the peptogenic milk powder, which latter is the method adopted in the New York Infant Asylum.

The success attending the use of sterilized food has been very good. True, it is not a perfect substitute for mother's milk, but it is the greatest advance which has yet been made in infant dietary. The majority of children do very well on it, especially if it has been partially predigested, and it is in use to-day in all the leading American children's institutions.

When fermentation is in progress in the intestinal tract, sterilized milk is not curative. Milk in any form is seized on by the bacteria of the disease, and forms a suitable culture-ground for them. But if you can prevent the entrance of bacteria by passing at once from mother's milk, the infant may be tided over the trying season of infantile existence. Or if the child has been fed for some time on non-sterilized food, before beginning the use of the new method, clear the alimentary canal of all its impurities. Milk thus prepared will keep for weeks, and, if starting for a sea voyage, a stock prepared beforehand will last the whole trip.

*Method of Preparation.*—The proper way is to have bottles of different sizes according to the age of the child, each bottle holding milk enough for one feeding. Bottles should be of such a shape as to be easily cleaned. The top should be of such a shape as would allow a rubber

teat to be used on it, thus obviating the necessity of changing the milk into other bottles and thus undoing the sterilizing process. Great care should be taken to keep the rubber teat antiseptic, and to prevent sour milk from collecting around the folds. After putting in the necessary amount of milk, the neck of the bottle should be closed with antiseptic cotton. If it is intended to keep the milk for some time, a rubber cork is better, with a slit out of the lower half of one side. And after sterilization this cork can be forced tightly into the bottle and thus prevent the entrance of all germs.

The bottles, thus prepared, are put into the sterilizer, exposed to the steam of boiling water for twenty or thirty minutes in winter time, and forty-five minutes in hot weather. They are then put away for use, and allowed to stand preferably on a wooden shelf in a cool room—not in a refrigerator.

Now as to apparatus. Arnold's sterilizer is the best. Siebert has one which is simply a tray which holds the bottles and which is set in a covered iron pot with water at the bottom. It does not do to set the bottles on the bottom of the pot in the water, as they will crack instantly. The old-fashioned steamer, found in all kitchens, will answer well, if high enough when covered to allow the bottles to stand. Dr. Rotch, of Boston, uses a tin vessel set on legs ten or fourteen inches high, with an apparatus in the lid to allow the steam to escape. Four inches from the bottom a perforated tin diaphragm is inserted, on which the bottles stand. The bottom of this vessel is covered with water to the depth of one inch and heat applied.

#### REPORT OF CASES OF TUBERCULAR PERITONITIS AND ACUTE SEPTIC PERITONITIS: LAPAROTOMY.

Notes read before Toronto Medical Society,

BY J. F. W. ROSS, M.D., C.M.

*Tubercular Peritonitis.*—A case kindly referred to me by Dr. Shaw, of Orillia; Mrs. J., æt. 36. Menses first came on at fifteen years of age, lasted usually six days, no pain, not profuse. Been married for fourteen years; menses now same as before. Has had three children, and no miscarriages; labors were severe. Previous



history: About the beginning of February, 1891, she noticed that she was enlarged; suffered but little pain, no diarrhea. Complained chiefly of fullness and "bloating," as she called it, of the abdomen, derangement of digestion, flatulence, loss of appetite, general weakness, and fever of a somewhat periodical character, worse at night. She thought the enlargement seemed lessened in the mornings. She gradually increased in size until I saw her. State at first visit: Thin, and looks like a patient in about the second or third week of typhoid fever; tongue angry, red at edges and tip; palpillæ swelled, and coating in the centre; teeth dry and covered with sordes; ascitic fluid in abdomen; irregular tympanites; a small area of hardness to be felt indistinctly; abdomen flattened laterally on making rectitense. I found that the temperature was  $103^{\circ}$ , and pulse running from 100 to 120. The temperature had been elevated for two or three weeks, and seemed to have been elevated from the first onset of symptoms. In spite of treatment faithfully carried out by Dr. Shaw, she had grown gradually worse. Attacks of profuse perspiration came on; enlarged veins were present over surface of abdomen.

Diagnosis: This lay between malignant disease of the peritoneum and tubercular peritonitis. The symptoms, to my mind, pointed to the latter, and I advised opening and washing out.

The operation was done at the Red Cross Hospital near Orillia. Dr. Corbett gave chloroform. On coming down to the peritoneum it was found thickened and studded with miliary tubercles, and as rough on its external as on its internal surface, and about one-eighth inch thick. A coil of bowel narrowly escaped injury. Intestines studded with tubercle omentum fastened in a conglomerate mass, producing the hard lump to be felt before operation, and all looking angry, red and inflamed. Bowels pressed back and irregularly matted together. Could not reach pelvis as incision was made high up and the patient had an unusually long loin. Washed out, but did not drain; wound closed, interrupted sutures. Dressed iodoform gauze and Gamgees pads. Temperature ran from  $103$  on day of operation down to  $100$ , and remained at that for three or four days, when it began to rise again. There was usually a morning fall, but never to normal, and an evening rise. On the eleventh day the

morning temperature, according to the chart, stood at  $99\frac{1}{2}$ , and evening temperature at normal, and for three days the evening temperature remained lower than the morning. On the fourteenth day the morning temperature was  $97\frac{1}{2}$ , and evening  $100\frac{2}{5}$ . From this on the temperature took an irregular course. The patient developed symptoms of general miliary tuberculosis, and died on March 26th, just one month after operation. This is the most rapidly fatal case of tubercular peritonitis I have seen. Dr. Shaw carried out the after-treatment.

*Septic Peritonitis: Laparotomy.*—Case of young woman, married four months. Miscarriage a week before I saw her, with her attendant physician, Dr. Verner. Agreeing with him that she was suffering from acute septic peritonitis, I opened the abdomen at once. On opening the peritoneum, thin milky fluid, sero-pus, gushed out. Uterus found enlarged; bowels covered with lymph and glued together in places by recent and easily broken adhesions. Temperature before operation  $102-103$ ; pulse, 152. Mentally, very bright. Ascending, descending, and transverse colon distended; rest of intestinal canal not much distended. Washed out thoroughly with several quarts of water from a douche pail, held high to give force to the stream. A large drainage-tube put to the bottom of Douglas' pouch. Stopped opiates, and gave calomel 8 grains, followed by two or three seidlitz powders and copious enemata. Dr. Verner remained all night and tried to get the lower bowel to act, but without avail. The bowel had become paralysed. A flatus tube gave no relief. Patient was in pain all night, but pain was not intense. In the morning I found colon enormously distended, pulse increased in rapidity, a coolness of arms commencing, breathing labored, and hiccough. Died eighteen hours after operation.

Two or three thoughts crowd into one's mind: 1st, Were the indications sufficient twenty-four or forty-eight hours before operation to justify such a procedure? 2nd, Would operation twenty-four or forty-eight hours earlier have saved the case? 3rd, Are not many of the cases of high temperature and rapid pulse, after miscarriage, really cases of purulent masked peritonitis, not showing any tympanitic symptoms? We all know that the cases of localized or circumscribed or so-called pelvic peritonitis

following miscarriage frequently recover. The same septic focus, the septic uterus, is present in each; then why the difference? The difference does not lie in the septic uterus but in the pus-laden lymph cavity, the peritoneal cavity. When the whole cavity is affected nature cannot throw off the poison, and we should then help her by two methods; drainage back and front, or, in other words, abdominal section and purgation. In this case the sero-pus soon changed to straw-colored serum, but we could not produce peristaltic action of the intestines. These cases will die. Exploration does no harm. One physician who gave the anæsthetic remarked when he saw the sero-purulent fluid gush out, "Surely this is the rational treatment." Such cases are not deaths to be put at the door of surgery, but are simply surgical attempts to save life after medical treatment by poultices and opiates have failed. I am convinced that the treatment of every case of general peritonitis should be surgical. Peritonitis is not, as is often stated, a disease analogous to pleuritis. Pleuritis is nearly always due to cold or tubercle. Peritonitis is either septic or traumatic, from without or from within. Idiopathic peritonitis is a mere supposition at best. The peritoneum protects itself better during drainage than the pleura. The walls of the chest are rigid and are expanded during each inspiration. Air has a tendency to enter and serum becomes readily purulent. In the peritoneum the bowels crowd around a drainage-tube and form a track for subsequent drainage, and the discharge has not such a tendency to become purulent. I have seen the belly filled with sero-sanguinolent fluid after the onset of peritonitis following operation, and have seen the fluid become clear and serous in a few hours after reopening and draining. I wish to show you this specimen from a dog operated on two weeks ago. In applying the bone plates to do an intestinal anastomosis for artificially produced obstruction, one of the four threads broke. I supplemented this loss of strength by Halstead's superficial sutures, but felt uneasy as to the result. The dog was well two days after operation at 8 o'clock, and dead one hour later. *Post mortem* showed that the part that depended on the broken thread had given way, and loaded the abdomen with fecal matter, killing the animal

by shock. Such work to be successful must be thorough.

*Case of Gonorrhæal Peritonitis—Laparotomy—Death twenty-four hours after.*—Mrs. P., æt. 25 years. Attended in her third confinement in October, 1888, by Dr. Carveth. She made an early and good recovery. During the following February she contracted gonorrhœa from her husband. For this no special medical care was received. After some time she recovered, and required no attendance till her fourth confinement, which took place on March 4th of this year. On the ninth day she was up and around, having had an easy labor, and made a good recovery. On April 6th she was suddenly seized with a pain in the region of the umbilicus after a chill. This was followed by vomiting and diarrhœa. At noon on April 7th her expression was anxious, tongue dry and brown; temperature,  $102\frac{1}{2}$ ; pulse, 100; abdomen very tender all over, but no special tenderness in the pelvic region. At noon, on April 8th, her temperature was 103; pulse, 120; and abdomen very much swollen and tympanitic; bowels constipated. Dr. Machell saw her in consultation with Dr. Carveth on the evening of the 8th, and advised abdominal section. At 9 a.m. of the 10th her condition had not improved, and at 11 she was taken to the General Hospital, and put under Dr. Ross' care.

Dr. A. H. Wright saw her with Dr. Carveth and Dr. Ross. It was decided to open and wash out the peritoneum and find the cause of the disease. Dr. Wright assisted at the operation. On opening abdomen, sero-pus flowed out; bowels looked red, and were covered with lymph flakes mixed with pus; adhesions not yet formed; bowels so distended that it was difficult to keep them in the abdomen; found appendix quite healthy; followed up bowel loop by loop to duodenum, and found no obstruction. The bowels were never allowed outside except as the loop was drawn out. No bile color was found in fluid, and thus was excluded perforation by gall-stone. No urinous smell, and no symptoms pointing to perforation of renal calculus, or perforation or rupture of bladder. No fecal extravasation. Tubes and ovaries felt normal in size; they were not drawn up because the manipulations were hurried and difficult, owing to patient's condition, and because they

were not enlarged. After washing out, a large glass drainage-tube was passed into bottom of Douglas' pouch, and closed the wound as rapidly as possible. The patient lived twenty-four hours. We seemed to have excluded the following by operation:—Perforation of gall-stone (Dr. Barker examined the fluid from the cavity for bile subsequently, and found none), perforation of renal calculus, perforation of gastric or intestinal ulcer, perforation of urinary bladder, appendicitis; so that the only parts not excluded were the genitals. We had history of previous attack of gonorrhœa, of the infection by the husband on a previous occasion, of the recent pregnancy and confinement requiring abstinence from intercourse until about the time that the woman fell ill, namely, one month after confinement, all pointing to the tubes as the starting point of the inflammation. *Post mortem*: the wound was re-opened; nothing could be found to account for the inflammation until the ovaries and tubes were drawn up. The tubes were almost purple in color, and the ovaries looked grayish on the surface, and were covered with ecchymosed spots. They had every appearance of acute inflammation. We proceeded at once to examine for gonococci, Drs. Barker, Hillary, and Cullen, assisting in the search. None could be found, but pus cells were obtained from the interior of the tubes. Many observers have been unable to find gonococci even in cases of undoubted gonorrhœal pyosalpinx. Staphylococci were found in abundance. The bowels were in places almost gangrenous, either from the severity of the inflammation, or from the pressure produced by the distention with pus.

Such cases have a frightful mortality by any method of treatment. Incision can do no harm and evacuates a fluid loaded with poisonous products. If only one life is saved by such a procedure out of 100 cases, the operator is repaid for his work.

#### GYNÆCOLOGY IN THE JOHNS HOPKINS HOSPITAL, BALTIMORE.

BY ALBERT A. MACDONALD, M.D.,

Physician to the Toronto General Hospital, etc.

During a recent trip to Baltimore, Dr. J. E. Graham and I enjoyed the hospitality of our old

friend, Professor Wm. Osler, and were also entertained by others of the leading medical men of Baltimore, whose cordial manner cannot help but foster warm and friendly feelings. Johns Hopkins Hospital is unique and must be seen to be appreciated. Though it is situated near a densely populated part of the city, where clinical material is abundant, it is so elevated that it commands a view of the city and suburbs. The hospital buildings are so constructed that they give the most perfect sanitary results. The grounds are spacious and well kept. Everything seems so ordered that both the convenience of the medical men and the best interests of the patients may be served. Post-graduate work is only done. The teaching is thorough, and such a scientific atmosphere pervades the place that it cannot help leaving a favorable mark upon all who are fortunate enough to be able to avail themselves of its manifold advantages.

In the hospital my time was chiefly occupied with work in the gynæcological department, under Professor Howard Kelly and Dr. H. Robb.

One is particularly impressed with the great amount and thoroughness of the work. From the out-patient clinic suitable cases are chosen, and the wards are filled with many patients demanding operative measures for their relief.

The wards are well lighted, suitably ventilated, scrupulously clean, and supplied with every convenience. The appearance of the operating room is unique, with its tiled floor, clean walls, brass table with glass top, instrument cases with glass shelves, wash basins, trays, vessels of glass of different color for different solutions, sterilizers, and glass bottles for cotton, bandages, etc., and in fact every appliance for convenience and perfect cleanliness.

Professor Kelly believes that the greatest difficulty is encountered in freeing the hands from infectious germs—the most harmful of which he takes to be the streptococcus aureus. In order to be sure of avoiding the baneful effects of these germs, he goes through and causes his assistants to adopt a most rigorous course. First, they dress in white duck for the operation. The hands and arms are bared, and after scrubbing for ten minutes with soap and hot water, they are rinsed with pure water and



soaked in a saturated solution of pot. permanganate, which is again rinsed off in distilled water, and then the brown color is removed by a saturated solution of oxalic acid, which in its turn is rinsed off in tepid distilled water. The instruments are wrapped in a towel, sterilized by steam, and placed in a glass tray under distilled water ready for use.

I saw some "hand cultures." After an assistant had washed his hands and soaked them in perchloride of mercury solution, some scrapings from under the nails were placed in culture media. In due time germs were produced, some of which, when injected into a rabbit, caused death. Dr. Kelly believes that perchloride of mercury solutions retard but do not absolutely prevent the production of poisonous germs, whilst saturated solution of permanganate of potash absolutely destroys the germs. The patients are prepared with as great care as the instruments and the hands of the operator. Ether seems to be used oftener than chloroform. I saw a good many cases of vaginal hysterectomy, all doing well. One was notable, as the operation was done for prolapse of the uterus, which was of such a marked character that no other plan of treatment seemed to offer a chance of relief from her distressing symptoms. Some of the hysterectomies were done for myomata, and Dr. Kelly believes that when the life of the patient is rendered unbearable by pain or disease caused by pressure from myomata, and when other treatment is unavailing, hysterectomy is justifiable. One case of cystic ovary was operated upon by Dr. Kelly in which the adhesions were so dense and general and the bleeding was so free that the cyst could not be removed without seriously threatening the life of the patient. He broke quickly through the adhesions at the pedicle, ligated it, emptied the clots out of the sack and washed it out with warm water, drained and packed with iodoform gauze, with good result. In a case of subperitoneal myoma removed by Dr. Robb the omentum was attached, and its vessels so enlarged that, instead of separating adhesions, he tied off omentum, tied the pedicle and removed the tumor, after which he tied the pedicle again by cross stitches.

There were very many other operations of great interest to me. In dilating the cervix

uteri, Professor Kelly uses the dilators with repeated quick movements, changing the position so as to dilate evenly. In repairing lacerations of cervix, he cuts the scar tissue away very freely, and uses silk-worm gut with catgut for the superficial stitches. In lacerations of the perineum he does a very neat operation, using Emmet's curved scissors, and denuding higher up on the vulva than many advise. Catgut for the lesser and silk-worm gut for the deeper stitches are used. Glass catheters are preferred, as they are so easily cleaned.

## Selections.

### THE PRESENT POSITION OF ANTI-SEPTIC SURGERY.

(Correspondence in *The British Medical Journal*.)

SIR,—The allusion that I made to Professor White's unnecessary readiness to take Sir Joseph Lister's place in an argument upon this subject will be found to bear an altogether different meaning from that forcedly put upon it by Professor White. My article was the criticism of Sir Joseph's address in Berlin, where my own arguments were not only not ignored, but were pointedly alluded to and by name. That, however, is a matter of no consequence. Professor White's unnecessary and inconsequent intervention was due to what he calls "an abiding faith"—a singular corroboration of the criticism I advanced against the whole antiseptic doctrine fifteen years ago. Its analogy can be found only in theological metaphysics. It is like the doctrine of "innate ideas"—it requires "an abiding faith," and, when that has been acquired, its recipient is wholly beyond the province of ordinary reason. I accept—I have often used as one of my strongest arguments—"the every-day facts of the surgical ward." It is precisely because I see the cut of the morning shave heal without suppuration in a healthy man, because I know that simple fractures heal without it, as do contusions without loss of continuity, and because of a hundred other daily facts of surgical experience which are ignored by the "peculiar people" of the "abiding faith," that I laugh at the whole thing.

The facts of the "beef and pickle" argument, and those of the "henwife and the housewife"

are quite familiar to everybody in this country, and, taken together with those of the every-day practice of surgery, they prove three things: (1) that the germs of putrefaction exist, with restrained potentiality, in all living tissue; (2) that the restraining influence is what we call, for want of a better name, vital force; (3) that when the restraining influence has its balance upset by what we call disease, lowered vitality, accident, etc., the germs are let loose to work their evil wills. This is the fundamental pathology which I was taught as a youth, and my mature experience confirms it every day in every particular.

One matter aside. Professor White complains of my attack on the deadly and dangerous character of the double cyanide dressing. I have had no experience of it, and my objection certainly was *a priori*. But with the awful experience we have had of the poisonous effects of carbolic, have we not reasonable grounds for fearing in a "double cyanide" something far worse? The part of the whole business of the antiseptic processes, where ridicule becomes the most potent, indeed the only argument, is that when we have seen every few months an infallible nostrum introduced, adopted by those of the "abiding faith," sworn to as the perfection of the system, and then, *incredibile dictu*, dropped into oblivion without a word of explanation or apology. Ordinary, plain-sailing, every-day folk, like myself, were charmed with the idea of the spray. It seemed so complete, so logical, that the confession on the part of Sir Joseph that he was ashamed of it put the final stone on the cairn of antisepticism.

I am, etc.,

Birmingham.

LAWSON TAIT.

SIR,—Mr. Tait reiterates but does not add to his previous argument. His interesting observation of the innocuous effect of the "cut of the morning shave" is merely confirmatory from the masculine standpoint of the great truths already made clear to him by the experience of the opposite sex as embodied in the "facts of the henwife and the housewife." On this broad basis of generalization he erects a "fundamental pathology" which he condenses into three propositions embracing views as to "restrained potentiality," "vital force," and the "evil wills" of the germs of putrefaction—a

sort of pathological metaphysics at least as irrational as the theological variety to which he objects.

The fact that he practically ignores the evidence I ventured to bring forward and the authorities I referred to renders further argument useless.

Something has been gained by his confession that he described the double cyanide dressing as "deadly and dangerous" on *a priori* grounds solely, and without having had the very least experience with it.

By the side light which this ingenuous admission throws on Mr. Tait's mental processes I would be led, were I truly a metaphysical theologian, to conclude this final contribution to my side of the discussion by preaching him a short sermon, taking as my text the saying of Confucius: "To know that we know what we know and that we do not know what we do not know is the sum of all human knowledge."

I am, etc.,

Philadelphia.

J. WILLIAM WHITE.

ON THE DIFFICULTY EXPERIENCED IN THE DIAGNOSIS OF WHOOPING-COUGH FROM THE PRESENCE OF A TUBE IN THE TRACHEA.—A boy, six years old, was admitted to the Royal Hospital for Sick Children, Glasgow, on November 6th, 1888. He was in such distress from urgent dyspnoea, due obviously to laryngeal obstruction, that in about an hour after his admission tracheotomy was performed by Dr. Hector C. Cameron. The breathing was at once relieved. The case was at first suspected to be of diphtheritic nature, although no membrane was seen either before, or during, or after the operation. The boy was reported to have had a cough for a fortnight before his admission, and he was said to have vomited with his attacks of coughing. After the operation the boy seemed to do well enough, but he continued to have a very troublesome cough, which was supposed to be connected, in part at least, with the irritation of the tube, etc. On the eighteenth day the tube was removed, and he did well enough without it. The cough still continued. After the removal of the tube the peculiar character of the cough began to excite my suspicions, and in three days the resemblance to whooping-cough became so great that his removal to the

isolation ward was ordered; another three days the diagnosis was complete, and he was removed to the whooping-cough wards of the Fever Hospital, at Belvidere, on November 30. The report from there was that the case proved to be a mild one; the tracheotomy wound healed in a few days, and he was dismissed well on January 12. Inquiry of the parents elicited the fact that others in the family, as well as this boy, were affected with a cough, which, after the patient's admission, had developed the character of whooping-cough in them also. The case was, no doubt, one of whooping-cough, complicated by laryngitis, suddenly presenting a grave form of obstruction. The idea of whooping-cough never entered my mind till after the tube was removed from the trachea, although the irritating sound of the coughing, with the air rushing through the tube, was heard repeatedly, and its cause could not be ascertained on physical examination of the chest. Of course the presence of a tracheotomy-tube necessarily interfered with any manifestation of the spasm of the glottis, on which we rely for the most characteristic sign of this disease. The effect of the tube completely misled the diagnosis. So far as we ascertained, no children in the ward were infected by his three weeks' residence here. A complication like this is rare, so far as I know, and it may have some value in discussing certain theories relating to whooping-cough.—*By James Finlayson, M.D., Physician to Glasgow Western Infirmary, and to the Royal Hospital for Sick Children, Glasgow, in the Archives of Pediatrics.*

ON THE USE OF ACONITE.—I have for many years been in the habit of prescribing aconite in doses which my medical friends assure me are very dangerous; yet I have never had any accident or an approach to one. My favorite preparation is the tincture (not Fleming's), and the dose ten minims three times a day. For rheumatic iritis I invariably order this, in combination usually with iodide of potassium and alkalies. On one occasion I had a remarkable illustration of its value. I had treated the same patient repeatedly for annually recurring and severe attacks of iritis. On one occasion he insisted that the medicine did not relieve him as it had formerly done. I compared my prescription with those of former years, and found

that though very similar in other respects, I had omitted the aconite. It was added, and relief soon followed. Since that I have never forgotten it. In almost all cases of rheumatic affections attended by pain, aconite seems to suit, and I have used it also much in inflammatory states of the skin, eczema, etc., especially when they are pruriginous. For the pain of cancer it is also, I think, decidedly useful. I recently saw a lady who had for this object continued my prescription of ten minims three times a day for a whole year. It had never disagreed in the least, and she believed that it had to some extent controlled her pain. From statements made to me by many professional friends, I am inclined to believe that there is far more danger in smaller doses at short intervals than in those which I use. I may repeat that I have never witnessed ill effects. My patients are always forewarned that they are using a powerful remedy, must be careful to measure the dose, and must leave it off if the tongue tingles. For acute inflammations of important viscera I have seldom used aconite, preferring tartar emetic. I can well understand that if it be given every half-hour or every ten minutes, as some recommend, that however small the dose it will need most careful watching, and may easily prove dangerous. I can also easily believe that such administration may be very efficacious, for it is undoubtedly a very powerful remedy. My chief reason for penning this note is, however, to bear testimony to the harmlessness of ten-minim doses not oftener than three times a day, but continued indefinitely, and to their efficiency in a variety of inflammatory, pruriginous, and painful affections.—*Hutchinson's Archives of Surgery.*

CANCER OF THE STOMACH WITHOUT SYMPTOMS.—At the Société Médicale des Hôpitaux, Nov. 7th, M. Siredey exhibited pathological specimens taken from a woman who died of cancer of the stomach. When she was admitted into L'Hôpital Laënnec under M. Strauss in September last, the woman showed no symptoms of cancer of the stomach, nor even dyspepsia. Her general health was excellent, and she had a rosy complexion. There were some signs of ethylism. Examination of the epigastric region, however, revealed the presence of two large tumors, one above the other, the one



appearing to belong to the omentum, the other to the stomach. Her general condition remained excellent until the month of October. At this time obstinate vomiting began, which soon produced emaciation. The patient, however, did not lose her appetite. The characteristic yellow tint was never present. The glands were not enlarged. Death occurred on the 28th of October. At the autopsy two cancerous tumors were found, one in the omentum, the other in the stomach; the latter extended over two-thirds of the great curvature, and from thence to the pylorus, which had become almost impassable. There were some granulations on the peritoneum. In the discussion which followed M. Hayem stated that in cancer of the stomach the chemical action which goes on in the stomach is usually much altered, but that sometimes the glands of a large portion of the mucous membrane remained normal, and consequently digestion and nutrition was not interfered with, the chemical action going on normally. This, he thought, was the case in M. Siredey's patient. He remarked that it was well to remember, however, that chemical action in the stomach might be completely abolished without there being any signs to show it, and that intestinal digestion could supply the want of stomach digestion. In responding, M. Siredey pointed out that the mucous membrane of a large part of the fundus of the stomach in the present specimen was healthy. In addition, the liver and the pancreas of the patient were quite sound; and consequently digestion might be carried on as indicated by M. Hayem.—*L'Union Médicale*.—G. A. F.

THE THERAPEUTIC EFFECT OF STRYCHNINE IN CARDIAC AFFECTIONS.—The *Medicinisch-chirurgische Rundschau* for February 1st has an extended notice of a recent paper by Professor Baldo Zaniboni, of Padua, on this subject. Zaniboni's article is based on a large number of clinical observations, with sphygmographic tracings, and appeared originally in the *Revista Veneta*, Nos. 2 and 3, 1890. The following are his most important conclusions:—Strychnine is without question a very efficient exciter of cardiac activity. By its use the systolic impulse is strengthened, the diastole is prolonged, and at

tacks of arrhythmia are cut short; subsequently the arterial tension is increased and the pulse-rate, if rapid, is slowed; if retarded, is accelerated. Acute dilatation and the dangers of heart failure, especially of the right side, are removed. Respiration becomes freer, and attacks of dyspnoea are completely relieved. Only in cases in which the nervous and muscular elements of the heart are no longer susceptible of stimulation does strychnine remain without effect. Oedema, even when it has resisted treatment with digitalis, disappears quickly, and there is free diuresis without the occurrence of albuminuria, such as follows the use of strophanthus. The bodily temperature is not noticeably affected. The appetite improves and the action of the bowels is regulated in consequence of increased peristalsis. The contractility of the arteries is heightened by the vaso-motor action of the drug. The hypodermic injection of strychnine is well borne, and with careful antisepsis causes no local reaction. Beginning with one sixty-fifth of a grain, the dose may be increased to one-third of a grain three or four times a day, without producing either subjective or objective disturbances. The treatment may be stopped abruptly, even when the largest doses are being given, without causing any unpleasant symptoms. The effect of the salt is seen very quickly (in about ten minutes) after the injection, and lasts for several hours. Even after the long-continued use of strychnine no symptoms were noted that pointed to any cumulative action of the drug.—*New York Medical Journal*.

TREATMENT OF EFFUSION IN THE KNEE-JOINT.—In the London *Practitioner* for February, 1891, Owen describes his treatment for effusion into the knee-joint. He says:—In some instances the aspirator was employed, but in others the distended joint was dealt with by a hydrocele canula of about the gauge of a No. 1 English catheter. In the use of either instrument the surgeon must take care that it is aseptic, and that the skin through which it is to be introduced is not only "cleansed" but clean. Moreover, he must not operate with "unwashed hands." Another point to be attended to when using the canula is that just as the fluid is

ceasing to flow the surgeon should block the end of the instrument with his finger, and so withdraw it that he does not introduce air into the joint. A canula thus used is as safe as an aspirator, and it has this recommendation, that it is sure to be in working order. If an ordinary canula and trocar cannot be used with security, peritoneal cavities, ovarian cysts, and vaginal tunics should have been in the habit of suppurating. This we know is not the case. It is very much the fashion now, however, to drop the simple word "tapping," or its equivalent "paracentesis," and, with a homage to euphemism, to employ the term "aspiration." To the practitioner it matters not whether the fluid is blood or sero-synovia. He has merely to obey the indication. If the joint has begun to swell up directly after the injury, the distending fluid must be blood; but if a day or more have intervened between the hurt and the swelling, the fluid has been poured out by the inflamed synovial membrane. Such fluid is a mixture of synovia with serum; often it is stained with blood. Dr. Owen has never known any trouble to follow the tapping of a joint; he adopts it as a routine treatment in the case of fracture of the patella as well as in the more simple variety of distension. As a rule, the puncture is made to one side of the patella. When withdrawing the canula the track is obliterated by firm pressure with the finger. The skin puncture is covered with a scrap of lint dipped in collodion, or by a little pad of dry wool. The knee, together with the upper half of the leg and the lower half of the thigh, is then enclosed in lateral splints of house-flannel and plaster-of-Paris. The limb is fixed in the extended position, the foot being slightly raised. The firm pressure which is made around the joint is comforting, and it effectually prevents further effusion into the synovial membrane. Having watched the effect of this method of treatment, Dr. Owen can honestly say that, should he have the bad luck to be the subject of acute traumatic hæmarthrosis or sero-synovial effusion of the knee, he would most certainly have the joint treated in the manner described. And he should ask that the site of puncture might be first numbed by the application of a piece of ice and some salt.—*Medical News*.

AMATEUR PRESCRIBING AND ITS RESULTS.—Acid nitrate of mercury is, doubtless, a useful external application in certain cutaneous disorders, but it is hardly the thing to smear over one's body as a cure for scabies. Acting on the advice of an unlearned fellow-laborer, however, three country yokels last week purchased some quicksilver and some nitric acid, and, having mixed the two, anointed their itching skins, with the result that the coroner has had to inquire into the cause of death of two of them, while the third is simply "hanging fire." The chemist who sold the materials came in for some censorious observations, but he does not seem to have infringed even the spirit of the law. Nitric acid is an article in common use in the arts, and quicksilver is not in itself poisonous. Another time, however, perhaps he will take the trouble to inquire what such things are wanted for. Had he done so in this case he would have saved two, if not three, unhappy men from an agonizing death.—*Hospital Gazette*.

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

*When a change of address occurs please promptly notify the Publishers, THE J. E. BRYANT COMPANY (Limited), 58 Bay Street.*

TORONTO, MAY 1, 1891.

### LICENSING BOARDS IN THE UNITED STATES.

Recent legislation in many of the States is likely to exert great influence in medical education in the near future. It is certainly remarkable that the standard in the United States should so long have remained so low as compared with that of all other civilized countries. A few years ago there was practically no entrance examinations for the great majority of medical students. As the medical schools were the masters of the situation in those times, the

standard was purposely kept low, because it meant a larger attendance and greater profits.

There is a medical school in the State of New York which furnishes a good example of an institution conducted on business principles. It is in the neighborhood of twenty years since the writer, attracted by the great reputation of this big concern, attended its lectures for a few weeks. He met, as fellow students, the queerest motley crowd of uncouth, uncultured, and ignorant creatures it was ever his misfortune to be associated with. To matriculate there meant to pay five dollars. The student was supposed to be able to read and write, but not to spell; this latter was an accomplishment so rare as to be considered rather a vulgar one.

This was one of the two-year mills, so common in those days, scarcely forgotten yet. It was run on a plan as simple as it was easy. Some hundreds of students listened to two courses of didactic lectures; they were never allowed inside a hospital ward; they were not asked to do laboratory work; they were ordered to do some dissecting, and in this their celerity was unexcelled, as they frequently completed the dissection of an extremity in one evening.

The legislation before referred to is, however, bringing about a new order of things. Licensing boards are being formed with a rapidity that is very satisfactory. Most of our profession will probably be surprised to learn that such boards now control medical practice in twenty-one States in the Union, as we learn from the *Medical News*. We are pleased to learn that that indomitable fighter against quackery, humbug, and ignorance, Dr. Rauch, of the Illinois Board of Health, has called a meeting of representatives from the various licensing boards, to be held at Washington on May 6th. Concerted action on the part of these bodies will do much for higher medical education in the United States.

#### INTERNATIONAL AMERICAN MEDICAL CONGRESS.

A formal notice has been given of a very important motion to be introduced by Dr. Chas. A. L. Reed, of Cincinnati, at the coming meeting of the American Medical Association in Washington. We understand the proposed resolutions will be as follows:

"1. That the American Medical Association extend an invitation to the profession of the republics and colonies of the western continent to assemble in this country in an International American Medical Congress.

"2. That the Committee on Nominations be instructed to nominate one member for each State and Territory, and one each for the Army, Navy and Marine Hospital Service, to constitute a committee with power to act, to which will be referred time, place and permanent organization of the proposed Congress."

A Congress such as this, organized in the manner indicated, ought to prove a success in the highest sense of the word. The American Medical Association, which passed through serious trials from internal dissensions a few years ago, is now becoming very strong. Its prospects were never so bright as at the present time. It will probably soon become for the United States all that the British Medical Association is for Great Britain. Some have thought this could never be on account of the magnificent distances between the different sections of the Union. The comforts and conveniences of modern travelling have, however, almost annihilated such difficulties, as the large attendance at recent meetings proves beyond doubt.

We think Dr. Reed's idea is a very happy one, and hope it will be well received by the Association.

#### ANTISEPTIC SURGERY.

The discussion arising out of Dr. White's address in the Post-Graduate Course of the University of Toronto has not yet ceased. We publish in this issue another letter on the subject from Mr. Lawson Tait, which appeared in the *British Medical Journal*. Mr. Tait dislikes to be ignored by the London lights, and is too fond of controversy himself to ignore any one who criticises adversely his opinions or methods.

NOTE—Since the above was put in type we have received from Dr. White a copy of the reply he has sent to the *British Medical Journal*. It will be found in this issue.

#### THE CLOSE SHAVE.

Our barbers, so skilled in surgery in former times, have not yet lost their cunning. One of



their greatest triumphs in modern times is what is called "a close shave." Their dexterous finger tips, moistened and spread slightly apart, press the skin in such a way as to make the lower part of the hair-shaft unduly project beyond the follicle. Dr. Shoemaker tells us the follicle itself is partially forced outwards. The razor then removes not only the visible hairs but also a thin layer of the cuticle, lacerates the tiny blood-vessels at the orifices of the follicles, exposes the delicate endings of nerves, and thus renders the skin tender and unhealthy.

#### SPRING EXAMINATIONS.

The dreaded examinations are once more completed, and the results have proved unsatisfactory to many aching hearts. We have not yet the returns from the Ontario Medical Council, but report says the candidates did fairly well at the oral examinations. In the University of Toronto about thirty-three per cent. failed to reach the required standard, and were either rejected entirely or required to take a supplemental in one or more subjects. While we may extend our sympathy to the unfortunates, we must commend the action of the examiners in placing a high value on the examinations held by the Provincial University.

#### ONTARIO MEDICAL ASSOCIATION.

WE would direct the attention of our readers to the list of papers already promised for the annual meeting of the Ontario Medical Association. The excellence of the programme should ensure an attendance even greater than that of last year. Dr. Senn, of Milwaukee, will read a paper on "The Surgical Treatment of Intussusception"; Dr. Howard Kelly, of Baltimore, will deal with "Gynecology for the General Practitioner." The well-known reputation of the other contributors guarantees that their papers will be not one whit less interesting or valuable than those of our visitors.

**BURLINGTON AND HOME DIVISION.**—Owing to the resignation of Dr. James Russell, of Hamilton, representative of the above Division in the Ontario Medical Council, an election to fill the vacancy will be held in May, 1891. See the Registrar's advertisement in another column.

### Meeting of Medical Societies.

#### THE TORONTO MEDICAL SOCIETY.

April 9th, 1891.

The President, Dr. Spencer, in the chair.

Dr. J. F. W. Ross narrated the history of a case of tubercular peritonitis, and two cases of septic peritonitis, submitted to operation. These are published in detail at page 200 of *THE CANADIAN PRACTITIONER*.

Dr. B. E. Mackenzie showed a boy one year and ten months old, who presented a

#### DISPARITY IN THE LENGTH OF THE FEMORA.

The following history was given: Two days after birth the nurse noticed that the left leg was shorter than the right. The labor was normal, and at the time of birth nothing unusual was noticed. The left leg is seen to be shorter and smaller than the right (left is about two-thirds length of right leg), the shortening is confined to the femur. Motion at the hip joint is normal; the trochanter is normal, so also are the head and neck of the bone. There is a depression on the surface, a dimple over the outer part of the upper portion of the femoral shaft; there is apparently some cicatricial tissue at this spot. The foot is held in a position of equinus.

Dr. Peters thinks the dimple furnishes a clue to the cause of the condition. An intra-uterine injury affecting the bone at the point of commencement of ossification might cause it. There is no dislocation of the head of the femur, and the trochanter is in proper position. It is probably of congenital origin, and likely due to some affection of the ossific centre of the shaft of the femur. The disproportion in the length of the two limbs will probably not be greater in after life than it is now.

Dr. Mackenzie has little doubt as to its being congenital. He regards the condition as possibly due to the result of an intra-uterine fracture of the femoral shaft.

Dr. Price Brown gave the history of a case of

#### LARYNGEAL FIBROID TUMOR

removed by galvano-cautery in a patient suffering from aortic aneurism.

A farmer, æt. 45, presented himself with a large laryngeal growth, causing almost complete stenosis. On examination a fleshy growth was

observed below the arytenoid cartilages, covering almost the whole of the right vocal cord and part of the left. In the upper portion of the chest was a swelling, with dullness over it; no bruit. The patient first came to Toronto in December, 1890, when the growth was cauterized, with relief of the dyspnoea. January 3rd, 1891, he returned worse. Dr. Reeve saw him in consultation. It was thought that tracheotomy was indicated, and Dr. Cameron was also called. After consultation, Dr. Brown performed intubation, and the rales, heard on auscultation before operation, disappeared after intubating. The tube was only kept in position about ten minutes, and was then removed. The following day a lower growth, below the cords, was cauterized. He returned home to the country better. March 13th, 1891, he came back worse. On examining the chest, strong pulsation was observed over the swelling, but no bruit; aneurism was diagnosed, and he was advised to go home. A few days after, Dr. Brown was hurriedly called, but he died shortly after Dr. Brown reached him. The man was a hæmophilic. *Post mortem*: the superior left corner of the thyroid cartilage was absent; there was a small ridge representing the site of the upper growth, and a cicatrix at the former seat of the lower growth, with two minute nodules, and a depression between them at the same situation. A large aneurism was found on the aortic arch, formed just before the innominate artery is given off. The innominate artery was pressed to one side beyond the middle line, and an artery, which was observed during life to ascend up in front of the trachea, proved to be the right common carotid. The absence of bruit was probably due to the fact that it was an old aneurism with thick walls, and the blood stream flowed pretty well through the centre of it. There was perforation of the sternum, due to pressure of the aneurism.

Dr. W. Beattie Nesbitt gave a demonstration of

#### MICRO-ORGANISMS IN KOCH'S LYMPH.

Koch mentions that dead tubercle bacilli are present, but other forms of living bacilli have been found by Dr. Nesbitt. All solutions for experimental purposes were made in sterilized test tubes. A series of cultures from a fresh bottle of lymph was made. Some of the forms

of bacteria present were peculiar, and have not previously been recognized by Dr. Nesbitt. Any special virulence which the organisms possess has, as yet, not been ascertained, but investigations will be carried out by inoculation on animals. The facts stated illustrate the necessity for thoroughly sterilizing the lymph before using it.

Dr. Ross showed two dogs on whom he had performed an operation for

#### INTESTINAL ANASTOMOSIS.

The first dog Dr. Ross had operated on died on the second day; this was attributed to the fact that during the operation one of the threads broke, and although its loss of strength was supplemented by Halstead's superficial sutures, yet at the *post mortem* it was found to have given way and leakage occurred, proving fatal. Dr. Ross killed a dog on whom he had operated eight days previously, and performed a *post mortem* examination before the society. The anastomosis was sound, but was closing, in consequence of the fact that a silk ligature, which was passed around a loop of gut, to cause obstruction, had cut its way through the gut, healing taking place behind its track; the suture was found on the inner surface of the intestine, and the old lumen of the gut re-established. The anastomosis was no longer necessary, and hence was closing. There was some evidence of digestion of the bone plates which had been used.

April 26th, 1891.

The President, Dr. Spencer, in the chair.

Dr. B. E. Mackenzie showed a girl, two years and three months old, with the

#### LEFT HUMERUS ONE INCH SHORTER THAN THE RIGHT.

When six or seven months old the child was very ill and so much emaciated that recovery seemed doubtful; it was thought at that time that she was suffering from acute epiphysitis; suppuration occurred in the region of the shoulder. Fixation of the joint was secured by bandaging the arm to the chest wall; cod liver oil and malt were administered, and the child recovered. There is now the shortening as described.

Dr. Sweetnam presented a specimen of

# CARCINOMA UTERI REMOVED BY VAGINAL HYSTERECTOMY.

The woman, æt. 51, first complained nine months ago of pain in the lower part of the abdomen. She lost no blood, and there was a slight vaginal discharge. On examination some thickening was detected, and Dr. Sweetnam advised operation. One month ago vaginal hysterectomy was performed, and the patient is now going about in apparently good health. In abdominal hysterectomy the mortality is seventy-five per cent; vaginal hysterectomy less than twenty-five per cent. Very few patients have lived beyond four years after vaginal hysterectomy; the reason probably is that the operation has not been performed early enough. The immediate results in vaginal hysterectomy are excellent. From the fact that we remove more tissue and therefore free of the disease, in vaginal hysterectomy it will probably be found that the remote results are better than in abdominal hysterectomy.

Dr. Macdonald, referring to the treatment of carcinoma uteri, said that nothing was more hopeless than the outlook after the older methods of operating, *e.g.*, scraping out the disease and painting with perchloride of iron, etc. He referred to the statistics of Price in abdominal hysterectomy, and of Kelly in vaginal hysterectomy, which go to show that good results have been obtained by experienced operators in both operations.

Dr. Machell was under the impression that in certain localities the pendulum of professional opinion was rather swinging the other way, and that in New York, for instance, vaginal hysterectomy was not performed nearly as often as formerly. Sims' method of treating these cases was, after all, not so bad; the curette was used, and the cervix and part of the fundus removed, then chloride of zinc applied. The method yielded good results. Four or five years ago, Dr. Machell operated thus, cauterized thoroughly; the patient still lives in good health. Vaginal hysterectomy in this case would have been a more serious operation, and the result could not have been better.

Dr. Sweetnam, in reply, stated that he believed the unfortunate remote results were due to the fact that advanced cases had heretofore been the class selected for vaginal hysterectomy. Per-

sonally, he did not see why surgical principles applied elsewhere in the body should not be acted upon in treating a carcinoma uteri, and he thought early and free excision the method indicated.

Dr. Sweetnam showed specimens of

## NECROSIS OF THE SKULL BONES.

These sequestra he had removed from the skull of a man æt. 23. Three years ago he had been struck with a soda-water bottle, inflicting a scalp wound. The pericranium had been stripped off, and as a result necrosis occurred. More than half of the frontal bone and a large portion of the parietal perished. Dr. Sweetnam dissected up flaps of soft tissue and removed the sequestra.

Dr. Greig read a paper on

## INFANT DIETARY,

which appears at page of 197 THE CANADIAN PRACTITIONER.

In the discussion which followed, Dr. Macdonald said that he has found it hard to get infants to take milk which had been digested before sterilization, because it renders the milk bitter. If, however, the peptogenic milk powder be used by the cold process, then the infant will take it more readily. When we can send a sick child to the country near the source of supply for the milk, the danger of contamination is minimized, and benefit results.

Dr. Oldright stated, on the authority of Whittaker, that tubercular disease may be transmitted in the milk of a diseased cow without the udder being of necessity itself diseased. Jersey milk has been found of great value by Dr. Oldright in cases in which nothing else would agree. The good effect of Jersey milk seems to depend on the larger percentage of fat and the small quantity of albumin present.

Dr. Shaw said that Dr. Booker has investigated extensively; he has never found any one particular bacillus the cause of any one form of diarrhoea. *Proteus vulgaris* was found to produce gastro-intestinal catarrh in children. Cats fed on milk from a cow with ulcerated udders carried a disease to children which proved to be diphtheria. Dr. Abbot, of Baltimore, found, last summer, that bacillus tuberculosis will develop in pure milk. Three sterilizations are necessary to produce a perfectly pure milk. Cows milked on a farm and the milk put



immediately in ice freezers has been found efficacious in preventing the development of bacilli. This seems better and produces a more digestible article than the sterilized milk.

Dr. Machell thinks the simple sterilization alone is not sufficient to make cow's milk fit for the infant.

Dr. Rotch's formula is :

|                           |   |   |   |      |
|---------------------------|---|---|---|------|
| Cow's milk                | : | . | . | 3ii. |
| Cream                     | . | . | . | 3ij. |
| Water (previously boiled) |   |   |   | 3x.  |

To each pint two measures of sugar of milk sterilized for twenty to forty minutes, then add one ounce limewater at time of feeding. This produces a milk almost identical with mother's milk.

Dr. B. E. Mackenzie thinks it important that the child should be fed at regular intervals. The great difficulty arises from the large size of the coagulum of cow's milk. The milk should be allowed to stand two or three hours and then pour off the top of the milk. This increases the amount of fat material.

Dr. Greig, in reply, claims that milk is altered in its chemical composition by being kept too cold. If the artificial digestion be not carried out too long, the milk will not become bitter.

## GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

February meeting.

The President, Dr. Henry M. Wilson, in the chair.

Dr. Neale reported a case of occlusion of the os uteri during four days parturition.

Dr. J. Whitridge Williams read a paper on

### THE INDUCTION OF PREMATURE LABOR IN CONTRACTED PELVES.

He pointed out that the comparative neglect of the operation in this country was due to two causes—the absence of large lying-in institutions, and the consequent lack of large amounts of clinical material, and the almost total neglect of pelvic measurement. By the term premature induction of labor one understands the artificial interruption of pregnancy at such a period that a viable child may be born; that is any period from the twenty-eighth to thirtieth week to the end of pregnancy.

Dr. Williams then went into the history of the operation, and showed that it was first rationally employed for this indication in England, as the result of a conference of the eminent physicians of London in the year 1756. Within fifty years it was quite generally employed on the continent and soon enjoyed a popularity which caused it to be resorted to on the most trifling pretexts, and which in 1869 called forth Spiegelberg's forcible denunciation of the operation, by which he showed that the mortality both of the mothers and children was nearly three times greater after the operation than if the woman went on to term. This was soon followed by articles by Litzmann and Dohrn, who showed that Spiegelberg had painted the picture in colors far too dark.

Litzmann showed that in moderate degrees of contraction, 8.25 to 7.5 cm. ( $3\frac{1}{4}$  to 3 in.), the operation was indicated in the interests of the mother, as shown by a mortality of 7.4 per cent. after the operation compared with one of 18.7 per cent. when the woman was allowed to go on to term.

Dohrn stated that the proper method of appreciating what the operation accomplished was not to compare so many cases of induced labor with so many cases of labor at term, but to compare the results of premature and spontaneous labors in the same woman; by this method he found that twice as many children were saved by inducing labor as by allowing the woman to go on to term. Consequently they proved that the operation was indicated in properly selected cases both in the interests of the mother and child.

The introduction of antiseptic methods into midwifery almost completely robbed the operation of danger for the mother, as will be readily seen from the following statistics. Thus, Haidlen reports forty-four cases from the Stuttgart clinic, with no maternal deaths and 72 per cent. of the children saved.

In 1889 Korn stated that Leopold lost one woman in forty-five cases, and saved 66 per cent. of the children. And last July Ahlfeld stated that he had induced labor 118 times with the loss of only one mother, and had saved 62 per cent. of the children. At the Berlin Congress, Tehling stated that in sixty cases he had save all the mothers, and 85 per cent. of the children.

From the above sketch we will readily see that the maternal mortality in properly selected cases is very slight; 401 cases collected by Korn showing a maternal mortality of only 2.9 per cent., or just a trifle more than normal labor in a normal pelvis, while the foetal mortality ranges from 20 to 70 per cent., the average being about  $33\frac{1}{3}$  per cent. So in this operation we have a means of saving about two-thirds of the children without any risk to the mother. On reckoning by Dohrn's method, we save at least twice as many children as if we allowed the woman to go on to term and then resorted to some conservative operation. These are the prospects of the operation, but unfortunately the degree of contraction within which the operation is justifiable is very limited, and one can only think of it in moderate degrees of contraction, according to Litzmann in flattened pelves with a conjugata vera of 7.5 to 8.25 cm. (3 to 3.25 in.), and to Schröder, 6.5 to 9.5 cm. (2.5 to 3.75 in.). As pelves with a conjugata vera above 8 cm. ( $3\frac{3}{8}$  in.) offer a reasonable chance to both child and mother at term, and those below 7 cm. ( $2\frac{3}{4}$  in.) offer no chance to the child, I think that the operation should be restricted to these limits; that is, between 7 and  $8\frac{1}{2}$  cm. ( $2\frac{3}{4}$  to  $3\frac{3}{8}$  in.) in simple flattened pelves. In the justo-minor pelvis a conjugata of  $9\frac{1}{2}$  cm. ( $3\frac{3}{4}$  in.) or less will usually be an indication for the operation. In the rare forms of obliquely narrowed pelvis, whatever its cause, we must be guided almost entirely by the history of the previous labor. We thus have the operation restricted to a very small range,  $1\frac{1}{2}$  cm. ( $\frac{5}{8}$  in.), which should only be exceeded when the previous history tells us that the previous labors have all ended disastrously. We should not think of inducing labor in a flattened pelvis with a conjugata below 7 cm. ( $2\frac{3}{4}$  in.), for in that case the prospects for the child are almost nil, and the dangers to the mother greatly increased. Here we come to the relative indication for Cæsarean section, when it is best to allow the woman to go on to term, and attempt to save both mother and child by that operation.

With these contracted indications we readily see that an accurate idea as to the exact size and form of the pelvis is an absolute pre-requisite for the performance of the operation; and the only means by which we can accurately

obtain this information is by carefully measuring the pelvis. We should not content ourselves with simply measuring the conjugata vera, but should also take the external measurements, and thereby attempt to determine with what form of pelvis we have to deal. After doing that, we must carefully examine the interior of the pelvis to determine its height; to see if it is generally contracted; and if contracted, if the contraction increases as we approach the outlet. We must look for exostoses of the pelvic bones, and carefully examine the promontory to see if it is double or not. If we think the pelvis contracted laterally, we should measure the distance between the tubera ischiorum on each side, as Breisky recommended. We should also attempt to estimate the transverse diameter of the pelvis, which is most difficult to do, and the most that can be expected is to examine alternately with each hand and try to stroke the linea innominata, and so relatively to get some idea as to the transverse diameter.

Having decided that an operation is necessary, the next question is, when shall it be done? Of course the younger the foetus, the smaller will be its size, and consequently the easier its delivery. But, unfortunately, the smaller the foetus, the less chance will it have of living, even if it survive the operation. Generally speaking, we say a child is viable after the twenty-eighth week, but its chances of living are almost nil; indeed, children thirty to thirty-two weeks old have next to no chances of living. The later the operation, the more chance has the foetus of living after it, but unfortunately its size and consequently the difficulty of its delivery increase with its age. If possible the operation should be done about the thirty-fourth to thirty-sixth week, our object being to operate at the latest possible period consistent with safe delivery. To fulfil this object, we must attempt to gain an accurate knowledge as to the size of the child's head. Unfortunately we are unable to determine its size with mathematical precision, or even with the relative precision of pelvimetry; so we are obliged to take advantage of every possible hint on the subject. Some of the following points may be of assistance in different cases. We must consider the mother's account as to the duration of the pregnancy; notice the size of

the parents, large parents usually having large children. Inquire about the previous labors, particularly as to the size of the head. Endeavor to estimate the size of the head by abdominal and combined abdominal and vaginal palpation; and note the consistency and amount of resistance to compression that the bones of the head offer. Try to measure the head with the pelvimeter through the abdominal walls, and deduct the estimated thickness of the abdominal walls from the result. Notice the size of the large anterior fontanelle, average width 2 cm.; the width of the sutures: and the distance from the anterior to the posterior fontanelle; for as they are larger or smaller, it indicates a larger or smaller head. Measure the length of the fœtus as it lies in utero, from breech to vertex, double the measurement, and it gives, according to Ahlfeld, the length of the fœtus. If a foot is prolapsed, measure it, for Goerner stated that there is a difference of nearly one centimeter between the length of the foot of a child at term and one at thirty-two to thirty-four weeks.

One of the most important methods is that of Mueller, who attempts to force the head down into the pelvis by pressure from above. As long as he is able to force the head down, he knows that labor will readily take place; but when he can no longer force the head down, and when it bulges out over the symphysis, then he considers that the time for operation has arrived. As the great danger to the mother is from sepsis, one cannot be too careful in one's efforts to guard against it, and consequently one should be most particular in one's preparation for the operation.

For several days previous to operating, the woman should have a warm bath daily, and several times a day be douched with warm water, 95 to 98 per cent., containing salt or borax, by which the cervix is softened and dilated. Just before operating, the genitals should be most carefully washed with hot water and soap, followed by a 1-1000 bichloride solution; the vagina should also be most carefully cleaned. The hands of the operator should be washed for at least ten minutes in hot water, and the hair-brush vigorously used, after which they should be placed for several minutes in a 1-5000 bichloride solution. All instruments should be sterilized by steam or placed in a 5 per cent.

solution of carbolic acid for at least thirty minutes.

The most generally approved method is that of Krause, or the introduction of a disinfected flexible bougie between the membranes and the uterine wall. If properly conducted it is almost entirely devoid of danger for the mother, and will bring about the birth of the child in a period varying from 8 to 24 hours, averaging about 80 hours or about three days. To insert the bougie the woman is placed on her back or side, as may be most convenient, and the cervix brought down by a pair of bullet forceps, and the cervical canal carefully cleansed with bichloride on a pledget of cotton; the bougie is then carefully inserted, so that its lower end is within the vagina, care being taken not to wound the membranes or the placenta. Then the vagina is packed with iodoform gauze, care being taken not to wound the membrane which serves to hold the bougie in place. If at the end of twenty-four hours no labor pains have been produced, the bougie should be removed and another introduced at another point, under the same precautions as the first.

If this method fail, we may resort to Kiwisch's method of allowing a current of hot water, 100-110 F., to flow through the vagina several times a day, for a period of five to fifteen minutes. Or we may puncture the membranes; as accessory to these we may loosen the membranes about their lower pole, dampen the vagina with iodoform gauze, or employ Barnes' bags.

If the pains are weak, Tehling recommends version by Hick's method and bringing down one leg, whereby increased contraction is produced, and one is afforded a ready means of ending the labor, if one deems it expedient in the interests of the mother or child.

Dr. Neale: I regard the chief point in this very able paper to be the endeavor to definitely fix the limits for the induction of premature labor in contracted pelves, not as opposed to Cæsarean section, but as applicable to a distinct and separate class of cases. This endeavor I strongly advocate, but at the same time must confess that I do not believe the plan is always practicable at the bedside. There are so many factors entering into the determination of this question, as I stated in my paper, that I can now only



repeat what I there quoted, viz.: "A given pelvic measurement is useful as an indication of what has been the experience of others under similar circumstances, but is not a final ground for decision."

After the evidence adduced, which doubtless represents the opinion of the best medical authorities, I am sure I only voice the concurrence of this society in accepting the limits for this operation as stated by Dr. Williams.

This is practically in accordance with the teachings of Lusk—probably our strongest American authority—who places the range for the induction of premature labor in contracted pelves at a conjugata vera of from  $2\frac{3}{4}$  inches (7 cm.) to  $3\frac{1}{2}$  inches (8.75 cm.).

As stated in the paper, I believe the most reliable statistics of this operation are those of Dohrn, who compares the results of induction of premature labor with those of labor of term in the same case, showing a very decided advantage in premature labor. It must be remembered, however, as Litzmann has clearly shown, that children born alive by this operation are far more likely to die early than matured children. The risk to the child does not cease with the delivery.

I can not recall any reference in the paper to pelves contracted from hip-joint disease, and yet I have met with two obstetrical cases of this character during the past two years in this city, both were in private practice, and both were primiparæ.

The first case I saw in consultation during a very severe labor at term, and delivered her of a still-born child by a difficult high (Tarnier) forceps operation.

Premature laor was induced on the second case at the eighth month. In this case the bougie was retained under antiseptic precautions (2 p.c. creoline, cervical and vaginal douche, and iodoform gauze over os), between the membranes and uterine walls, for forty-eight hours without effect. It was then withdrawn, the douche again administered, and bougie reintroduced in a different position and retained for twenty-four hours again without effect. The sac was then punctured high up by the probe, and labor began in about fifteen hours. Thus we see the method of Krause, although the best, may fail where puncture of the sac will not.

As this lady was poisoned to death by an unclean servant, who dressed and picked carious bones from her foot and then attended my patient, and handled all her linen, napkins, etc., without my knowledge, it shows the importance of extending our antiseptic precautions to everything coming in personal contact with the case. As regards the method of delivery, the experiments of Budin and others speak strongly in favor of version and extraction as opposed to forceps.

Dr. Kelly: The subject is too large to be discussed formally. I will merely refer to one or two points of interest. A serious complaint is to be entered against the records of foreigners in regard to the statistics of infant mortality after premature labor. Many observers only state whether the child was born living or dead; some few state whether or not it was living when discharged from the hospital. What we want to know for practical purposes is whether the children live any time after they get home. My own experience is but few live. If they are sent out simply to die soon after at home, the induction of premature labor among the poorer classes simply becomes a species of uterine gymnastics. A method of my own which I have found most successful in inducing premature labor is taking a flexible whale-bone bougie, introducing it between the membranes and the uterine wall, high up into the uterus, and sweeping it gently around for one or two inches in either direction. This has not failed me in any instance in bringing on labor.

## Hospital Reports.

### REMOVAL OF THE RECTUM FOR CARCINOMA.

UNDER THE CARE OF L. M'FARLANE, M.B., SURGEON TO TORONTO GENERAL HOSPITAL.

[Case reported by J. E. McCarty, M.D., House Surgeon.]

C. V., æt. 55 years; born in Canada. Admitted to Toronto General Hospital, February 27th, 1891; hotel-keeper; has lived moderately. Only serious illness was an attack of peritonitis in 1875. His grandfather died from epithelioma of the lip; the remainder of his family history is unimportant. Five or six years ago he first noticed pains in the back and

general weakness. After having the bowels freely opened by means of cathartics, he would feel fairly well for a couple of weeks and then there would be a recurrence of the pains. About two years ago there commenced a slight discharge of a bloody consistence, when at stool. Defecation not particularly painful. This discharge has gradually increased since, and has the peculiar cancerous odor. He was told that he had internal hæmorrhoids, and for such was treated by quacks, who prescribed numerous ointments. He received no beneficial effect from these and came to the Hospital. On admission, cancerous cachexia well marked; has lost weight, is anæmic, has no appetite, and looks older than he should. Bowels are usually constipated; other organs are normal. Digital examination of the rectum revealed an annular tumor about three inches from the anal margin, and extending higher on the right than on the left side. It was nodular to the feel and bleeds some. No enlarged glands could be felt in the vicinity. Examination per speculum showed a warty cauliflower mass.

*Diagnosis*.—Carcinoma of the rectum, requiring excision.

*Operation*.—The bowels having been thoroughly cleared out by calomel and enemata, he was operated upon by Dr. L. McFarlane on March 2nd, 1891. He was anæsthetized and placed in the lithotomy position, Clover's crutch being used. A large antiseptic syringe with tape attached was passed up the rectum above the tumor. The rectum was then thoroughly irrigated with a solution of hydrarg. perchloride (1 in 4000). An incision was made at the junction of skin and rectal mucosa. The dissection was continued upwards from the anus to almost an inch above the tumor, the rectum being fully separated from the surrounding tissues, going a little higher on the right than on the left side. The tumor was now drawn down by means of a polypus forceps, the portion of rectum above the tumor being secured by means of a large Spencer-Well's cyst forceps. The mass was removed by long, curved, blunt-pointed scissors. Hemorrhage being profuse, the wound was irrigated with water at 120° F. All accessible bleeding points were secured and ligatured. The intestinal wall was next drawn down and stitched to the skin. A large tube

*en chemise* was passed up the bowel, packed with iodoform gauze. A pad of bichloride gauze, with an opening in the centre for the tube, was placed over the wound, and over all a pad of antiseptic wound wool. The dressings were held in position by a T-bandage. Patient's pulse was weak after operation, and he was slow in recovering from the effects of the  $\text{CHCl}_3$ . Spts. vini. gallici. m. xxx. was given hypodermically; later, when pulse had improved, morph. sulph. gr.  $\frac{1}{4}$  was administered subcutaneously.

March 3rd: Urine per catheter every six hours; temperature 98½; respiration 20; pulse 102; dressing changed; no hemorrhage.

March 4th: Temperature, 99¼; respiration, 22; pulse, 97. Morph. sulph. gr.  $\frac{1}{4}$  p.r.n. to relieve pain. Dressing changed; slight mucus discharge. Bowel irrigated with a warm saturated solution of boric acid. The tube was discarded and a rectal bougie one inch in diameter, well carbolized, was used instead.

March 7th: Temperature, pulse and respiration normal. Dressing done every second day.

March 9th: Pulv. glycyrrhiza co. 3j was given internally. Bowels moved freely.

March 25th: Patient's appetite good. Bowels move every three or four days. Says he never felt better in his life.

April 2nd: Patient discharged.

Dr. John Caven examined specimen microscopically and reported it a malignant adenoma, or as it is commonly called, a columnar-celled epithelioma. It was of very rapid growth. Adenomata found in the large and small intestines and rectum are as malignant as the malignant carcinomata. They invade the surrounding tissues and form metastases.

*Remarks*: The successful issue of the above case is particularly encouraging. Although the disease was far advanced, the whole lumen of the tube being involved, the patient was very much improved by operation; and while it is quite probable there will be a recurrence of the affection sooner or later, yet the freedom from pain and marked benefit to the patient's general health resulting from operation prove that it was justifiable.

DR. KILBORN, of Kingston, will shortly go to China as a medical missionary.

## Reviews.

*Heredity, Health, and Personal Beauty.* By John V. Shoemaker, A.M., M.D., Professor of Materia Medica and Therapeutics and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia, etc. Philadelphia and London: F. A. Davis, Publisher.

This is an exceedingly interesting book, both scientific and practical in character, intended for both professional and lay readers. In showing the influence of heredity the author discusses freely Darwin's theory of evolution, particularly with reference to acquired as well as congenital characters. He contends that the physical, moral, and mental worlds are, all alike, controlled by the law of evolution. In speaking of health and personal beauty, he discusses the effects of environment, exercise of various kinds, the treatment of the skin, and the various parts and organs of the body. Many and useful are the hints given as to bathing, clothing, food, ventilation, etc. The book is well written and presented in admirable form by the publisher.

*The Year-Book of Treatment for 1891.* A critical review for practitioners of medicine and surgery. Contributors: Drs. Baron, Mitchell Bruce, Garrod, Berry Hart, Herman, Maguire, Owen, Phillips, Power, Ralfe, Reynolds, Ross, Skerritt; Messrs. Cooper, Reginald Harrison, Malcolm Morris, and Walsham.

The object of this year-book is to supply a concise epitome of the chief articles by the year, with a short criticism of the more important subjects, together with full references. It is not intended to be either a dictionary or text-book of medicine, but a ready help to practitioners. The names of the contributors will afford a guarantee as to the excellent character of the work. It is published by the well-known firm of Lea Brothers & Co., of Philadelphia.

*The International Medical Annual and Practitioner's Index for 1891.* Edited by P. W. Williams, M.D., Secretary of Staff, assisted by a corps of thirty-eight collaborators—European and American—specialists in their several departments. 600 8vo. pages. Illustrated. \$2.75. E. B. Treat, publisher, 5 Cooper Union, New York.

The ninth yearly issue of this valuable reference work is to hand. Part I. comprises the new remedies, together with a review of the therapeutic progress of the year. Part II. is devoted to special articles on diagnosis. Part III., comprising the major portion of the book, is given to the consideration of new treatment. Part IV. is made up of miscellaneous articles, such as improvements in pharmacy, books of the year, etc. In short, the *Annual* is a recapitulation of the year's progress in medicine, serving to keep the practitioner abreast of the times with reference to the medical literature of the world. Price, \$2.75.

## Personal.

DR. LAFFERTY, of Hamilton, who was seriously ill for over three months from pneumonia and its sequela, has recovered.

DR. A. B. ATHERTON, of Toronto, sailed for England on the *Etruria*, April 18.

LATEST reports show that Dr. A. T. Carson, of Toronto, is in Rome. He had a slight attack of bronchitis, from which he is recovering.

DR. E. P. GORDON, of Toronto, is surgeon on one of the C.P.R. steamers, which left Liverpool] April 11, on its voyage round the world.

MR. THOS. BRYANT was elected a representative of the Royal College of Surgeons in the place of the late Mr. John Marshall.

DR. EDWARD A. AYERS has been elected to the Professorship of Obstetrics in the New York Polyclinic.

DR. L. S. MCMURTRY, of Louisville, Kentucky, President of the Southern Surgical and Gynæcological Association, delivered two lectures before the Alumni Association of the College of Physicians and Surgeons, Baltimore, April 11th and 13th, on "The Pathology, Diagnosis, and Treatment of Ectopic Gestation."



DR. J. D. TURRY, formerly of Dunville, Ontario, died in Chicago, April 21st, on his way home from the Sandwich Islands, where he had gone for his health. He attended two sessions in the Toronto School of Medicine in 1880 and 1881, and completed his course in Buffalo, after which he practised in Peoria, Ill.

## Obituary.

DR. JAMES N. MCCREA died in Warkworth, April 27th, at the age of seventy-two. He graduated in the University of Victoria College in 1859. He practised many years in Warkworth, and for a time in Campbellford.

KARL BRAUN VON FERNWALD, M.D., Professor of Midwifery in the University of Vienna, whose name has long been familiar to gynaecologists throughout the world as that of one of the foremost among practitioners and teachers of the obstetrical art, passed away on March 28th, after a short illness, in the 70th year of his age. He was born at Vienna, and took his M.D. degree in the University of that city in 1847. He became *Privat-docent* in 1853, and not long after was appointed Professor in the School for Midwives at Trent. He was called to the Chair of Midwifery in the University of Vienna in 1857, and was elected Dean of the Medical Faculty in 1867 and again in 1871, and filled the office of Rector of the University in 1869.—*British Medical Journal*.

## Births, Marriages, and Deaths.

### BIRTHS.

GALLOWAY.—At 200 Euclid Avenue, on Saturday, April 18th, the wife of Dr. Herbert P. H. Galloway, of a son.

### MARRIAGES.

FRANCIS—READ.—On April 15th, at Toronto, Richard P. Francis, M.D., of Montclair, New Jersey, to Jessie, eldest daughter of the late John B. Read, barrister-at-law, Toronto.

GAMBLE—MCINTOSH.—At Toronto, on the 16th of April, Joseph B. Gamble, B.A., M.B., of Jarvis, Ont., to Lizzie J. McIntosh.

### DEATHS.

BRAY.—At Toronto, April 11th, Mary F., wife of James Bray, M.D.

## Therapeutic Notes.

PRESCRIPTION FOR WHOOPING-COUGH.—Von Genser is said to use the following prescription in the treatment of whooping-cough:

|                        |       |            |
|------------------------|-------|------------|
| R.—Carbolic acid       | . . . | 1½ grains. |
| Rectified spirit       | . . . | 2 drops.   |
| Tincture of iodine     | . . . | 5 "        |
| Tincture of belladonna | 10 "  |            |
| Peppermint water       | . . . | 2 ounces.  |
| Simple syrup           | . . . | 1 drachm.  |

To a child of two years a teaspoonful of this mixture may be given every two hours.—*Medical News*.

POWDERS FOR INDIGESTION.—*L'Union Médicale* states that Dujardin-Beaumetz uses the following powder in the treatment of dyspepsia:

|                          |            |
|--------------------------|------------|
| R.—Subnitrate of bismuth | } of each, |
| Carbonate of magnesium   |            |
| Prepared chalk           |            |
| Phosphate of sodium      |            |

2½ drms.

This is to be divided into forty powders, and one powder taken after each meal.—*Medical News*.

CREOLIN IN ERYSIPELAS AND ECZEMA.—Dr. Rothe has used in the treatment of erysipelas a creolin ointment containing—

|                           |           |           |
|---------------------------|-----------|-----------|
| Creolin                   | . . . . . | 1½ parts. |
| Creta præp., axung. porc. | aa        | 15 "      |
| Ol. menth. pio            | . . . . . | gtt. 5 "  |

This is spread in the thickness of the blade of a knife over the diseased parts twice or three times a day, a thin layer of cotton-wool being applied as a covering. In from twelve to twenty-four hours improvement was always apparent, and the disease was cured in three or four days. The same ointment also did good service in a case of weeping eczema of the face, as also in several cases of eczema in children. A patient suffering from scabies was treated with a thorough washing with soft soap and inunction of this ointment, with such a decided effect that Dr. Rothe considers creolin to be undoubtedly a specific for the disease.—*British and Colonial Druggist*.

THE British Gynaecological Society will hold a provincial meeting on June 18th and 19th at Newcastle-on-Tyne. Dr. Robert Barnes, Honorary President of the Society, will take the chair at the meeting, which will be held in the College of Medicine.

## Miscellaneous.

### PROGRAMME OF ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION.

*Medicine.*—"The Cardiac Phenomena of Rheumatism," by Dr. A. McPhedran, Toronto, assisted by Drs. Mullin, Hamilton; Henderson, Kingston; Gillies, Teeswater.

*Surgery.*—"The Causes and Treatment of Carcinoma," by Dr. J. L. Teskey, Toronto, assisted by Drs. J. Wishart, London; Groves, Ferguson; I. H. Cameron, Toronto.

*Obstetrics and Gynecology.*—"The Treatment of Fibroid Tumors of the Uterus," by Dr. Eccles, London, assisted by Drs. A. A. Macdonald, Toronto; Fenwick, Kingston; Mathieson, St. Marys.

*Ophthalmology and Otology.*—"Points of General Interest in Otology," by Dr. R. A. Reeve, Toronto, assisted by Drs. A. B. Osborne, Hamilton; Hodge, London.

*Therapeutics.*—"Modern Antiseptic Measures," by Dr. Saunders, Kingston, assisted by Dr. McKay, Ingersoll, and others.

*Papers by Guests of the Association.*—"The Surgical Treatment of Intussusception," by Dr. N. Senn, Milwaukee. "Gynecology for the General Practitioner," by Dr. Howard Kelly, Baltimore.

*Papers.*—"Pathological Weeping," by Dr. A. B. Osborne, Hamilton. "The Surgery of Tuberculosis," by Dr. G. A. Bingham, Toronto. "Pelvic Cellulitis," by Dr. Gardiner, London. "Deviations of the Nasal Septum," by Dr. Price Brown, Toronto. "The Diagnosis of Typhoid Fever," by Dr. J. E. Graham, Toronto. "Hæmaturia," by Dr. Wm. Britton, Toronto. "Is Alcohol a Stimulant?" by Dr. Arnot, London. "Epilepsy—The Results of Asylum Treatment," by Dr. T. Millman, Toronto. "Short Notes on Injuries of the Skull and Epithelioma of the Larynx," by Dr. Burt, Paris. "The Use of Fluorescin and Pyoktanin in Ophthalmic Medicine," by Dr. G. S. Ryerson, Toronto. Reports of Cases (Medical) by Dr. Campbell, Seaforth: "Acute Osteo-myelitis." Report of Cases, and exhibition of Cultures, by Dr. G. A. Peters, Toronto. "The Symptoms and Cause of Eye-Strain, and its Diagnosis by

the General Practitioner," by Dr. Caldwell, Peterborough. "Injuries from the too long use of Pessaries," by Dr. Hamilton, Atwood. "Hydrocele," by Dr. E. E. King, Toronto. "Senn's Decalcified Bone-filling," illustrated by presentation of patient and specimens, by Dr. Wm. Oldright, Toronto. "Exploration of the Female Bladder," by Dr. James F. W. Ross, Toronto. "Phlegmasia Dolens," by Dr. A. H. Wright, Toronto. Papers will also be contributed by Drs. Wilson, Richmond Hill; Irving, Kirkton; Grasett, Toronto; Primrose, Toronto; Buchan, Toronto.

W. R. WARNER & CO. are evidently determined to keep in the van of therapeutic remedies. Antalgic Saline appeals to us to-day for recognition as a remedy for the relief of headache, also for influenza and neuralgia; and as an antidote of la grippe they issue the Pil. Chalybeate Compound:

Composition carb. protoxide of iron, grs.,  $2\frac{1}{2}$ .

Ext. nuc. vom., - - - - - gr.,  $\frac{1}{8}$ .

Sig.: One pill every four hours and increase to two pills three times a day.

Antalgic Saline, one dessertspoonful every four or five hours till relieved for headache. The same mode of administration precedes that of the chalybeate pills for la grippe.—*Weekly Medical Review*.

P. BLAKISTON, SON & CO., the medical publishers of Philadelphia, announce for early publication, "A Handbook of Local Therapeutics," being a practical description of all those agents used in the local treatment of disease, such as ointments, plasters, powders, lotions, inhalations, suppositories, bougies, tampons, etc., and the proper methods of preparing and applying them.

MEDICAL BOOKS.—In 1889 about 133 new medical and surgical works emanated from the press, and 49 new editions of old or standard works. In 1890 the number ran up to 143 new works, and there were 50 new editions. On the other hand, theological, fictional, and historical literature show a marked decrease in the number of new volumes published.—*Med. Age*.

# THE CANADIAN PRACTITIONER

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## Original Communications.

### TUBERCULOSIS IN THE ENDS OF THE LONG BONES.\*

BY B. E. M'KENZIE, B.A., M.D.,

Lecturer in Orthopædic Surgery in Toronto University, and in  
the Woman's Medical College; Consulting Orthopædic  
Surgeon to the Victoria Hospital for Sick  
Children; Member of the American  
Orthopædic Association.

*Pathology.*—The discovery of the bacillus tuberculosis by Koch in 1882 has placed the pathology of tubercle on a secure basis, and has enabled the profession to march to the attack of an enemy whose strength and tactics are known.

The word "tubercle" is common in the works of the old writers, but is used to signify any morbid product of small size and of globular or nodular form. The term referred to the form rather than to the nature of the morbid product, and the mass might be scrofulous, cancerous, syphilitic, etc. Since the time of Laënnec, the word has been used to signify that morbid something which gives rise to general phthisis. Nélaton, in 1836, made the first systematic statement in regard to bone tuberculosis, and gave descriptions of forms of the affection that stand well the tests of time and criticism.†

The usual seat of tubercular processes in bone is the spongy tissue. In order of frequency they occur in the vertebræ, the extremities of the long

bones, the short bones of the hands and feet, and more rarely in the flat bones, and, exceptionally, in the shafts of the long bones, at a distance from the joints. Of the long bones, the tibia, femur, and humerus are the most common seats of attack, and in the order named. In the tibia the upper end is more frequently affected than the lower; in the femur, the lower end more frequently than the upper. This fact is of special interest in view of the mode of growth of these bones; the former grows more actively at the upper end and the latter at its lower extremity. Ollier has pointed out that fourteen-fifteenths of the growth in length of long bones occurs at the place of junction of the epiphysis with the diaphysis; and also that the terminal portions of the diaphyses, in children and adolescents, are most frequently the seat of acute and chronic inflammations and of various neoplasms. Tissues which are physiologically active are more fully supplied with blood than others, and are more liable to the attack of pathogenic processes. In keeping with these facts we find the knee more frequently the seat of disease than the hip or ankle, and the tibia more frequently the starting point than the femur. Another important clinical fact is also thus explained, viz., that bone diseases in the vicinity of joints are much more common in children than in adults, in whom the diaphyso-epiphyseal area has ceased to be active. When chronic disease affects the joints in the adult, it is much more frequently synovial in its origin.‡

\*A Paper read at the Post-Graduate Course of the University of Toronto, December 18th and 19th, 1890.

†Vide Ashurst's *International Surgery*, vol. vi., p. 906.

‡*Orthopædic Surgery*, Bradford and Lovett, p. 366.



\*The common form of osseous tubercular infection is the focal or encysted, first described by Nélaton. On section of the diseased bone the first noticeable change consists of a local hyperæmia of the cancellous tissue, soon to be followed by a small, grayish, translucent spot, which increases in size, while, at the same time, the zone of hyperæmia extends, and the surrounding bone becomes boggy, or sodden, from the excess of fluid transuded. The deposits present two chief types: the main one is that of a distinctively degenerative ostitis, the osseous trabecule being almost entirely absent, and the deposit composed of a mass of cellular tissue containing tubercles usually undergoing caseation. There may, however, be a certain amount of formative activity, and a resulting sclerosis of the osseous trabecule with a mass of new bone of varying density, which constitutes a tubercular sequestrum.

The modes of termination may be arranged under four heads: (1) The absorption of the diseased focus is possible up even to a late stage, provided the disease is strictly local and no sequestra have formed. (2) The deposit may push its destructive work toward the surface and reach the periosteum outside the joint, and give rise to a peri-articular abscess. (3) The diseased part may break down into pus, which may become cheesy or calcified, and remain quiescent for an indefinite length of time. (4) The fourth mode of termination—probably the most common—is also the most destructive; it reaches the articular cartilage and breaks into the joint cavity, setting up a purulent arthritis, or what is probably more common, causing an exacerbation where an arthritis had already been present. It is quite certain that the joint proper often becomes inflamed before any direct communication has been established with the diseased focus within the bone.

Lannelongue, in an early autopsy in a case of hip-disease, found a focus the size of a pea in the epiphysis, two millimetres from the cartilage. The synovial membrane was reddened and fungous; the capsule thickened; and the round ligament vascular and softened, although there was no effusion and no connection with the focus of disease in the epiphysis. Volkman has

found even more pronounced joint changes and swelling of the peri-articular structures before pus had entered the joint.† The extension to the joint in the manner indicated is in some measure dependent upon the relation of the synovial membrane to the line of epiphyseal junction. In the shoulder, ankle, and wrist, the disease remains a long time isolated, or gives rise to peri-articular infiltration and suppuration, while in the case of the hip, where the epiphysis and the upper end of the diaphysis lie within the joint, the destructive process, with greater frequency, becomes intra-articular.

*Diagnosis.*—There are no symptoms peculiar to tubercular affections of the bones—no pathognomonic signs. By consideration, however, of all the conditions of the patient, one may arrive at a strong presumption. A few symptoms and signs may be referred to as pointing very strongly to the existence of tuberculous infection of the bone in close proximity to a joint. In the domain of surgery, early diagnosis is never more urgently called for than when trouble threatens near a joint. It is not necessary to discuss cases that are far advanced; the evidence in them is so plain that an error can scarcely be made. If the products of disease can be obtained, bacilli may be found and a diagnosis established. Among the most reliable indications of incipient tubercular disease in the immediate vicinity of a joint are:

(1) *The history, family and personal.*—Concerning the former, nothing more need be said than that it is just as important as it is when chronic disease of the lungs is suspected. If the personal history is enquired into, it will, in a very large number of cases, be found that the onset of the affection has been preceded by some disease which has greatly lowered the general tone. It will often be found that the patient had recently suffered from whooping cough, scarlet fever, summer diarrhoea, typhoid fever, or other exhausting disease, and had made a poor recovery. It is doubtful whether the preceding sickness has any other relation to the tuberculosis following than that it simply lowers the vital powers and renders the tissues more vulnerable than they otherwise would be. Under such circumstances a predisposition, previously kept in check, is able to manifest itself.

\*Cheyne: *Lancet*, Nov. 15, 1890. *Orthopedic Surgery*, Bradford and Lovett, p. 215.

†Bradford and Lovett, p. 217.

A similar result follows from unhygienic surroundings.

(2) *Lameness of an uncertain commencement.*—A slight stiffness of the joint in the morning, with a scarcely noticeable limp, and a history that is indefinite as to the time when the limp was first manifested, is a valuable indication.

(3) *Some rise of temperature, especially in the evening, both local and general.*—Too little attention has been paid to this symptom. From observations made by Bradford and Lovett, of Boston, it is manifest that it is an early and valuable indication of incipient disease.

(4) *Limitation of the functions of the joint nearest the disease.*—This is, no doubt, the result of reflex action and manifested long before the joint has become infected by direct communication with the tubercular focus.

(5) *Atrophy of the muscles which control the neighboring joint.*—This is a sign that occurs so early and in so marked a degree that it cannot be accounted for by disuse only. There is manifestly a direct trophic disturbance as well. By careful comparison of the two limbs this will be found a very early and very constant indication of disease in the joint neighborhood.

(6) *Early enlargement of the bone.*—Where the deposit is at all considerable it causes a perceptible inflammatory thickening of the bone around, and careful observation will reveal a local enlargement that will be all the more manifest because of the adjoining muscular wasting. By careful measurements made from day to day, and comparison being made with the corresponding part on the other side, very slightly increasing enlargement may be observed. There will probably be some tenderness also, and a less resonant note upon percussion over the affected area of bone.

(7) *Flexion of the joint.*—In slight degree unobservable except by the most careful comparison, this sign is generally manifested at the hip, knee, and elbow. There is one special feature of great importance in arriving at a diagnosis in suspected cases—the element of chronicity. When the onset of disease is sudden and definite one may well conclude that it is not tubercular; but when there is a history of disability of a limb of uncertain beginning, particularly if accompanied by an account of exacerbations, sometimes apparently nearly recov-

ering, and most of the evidences of disease just named are found present, the clinical picture may be considered complete.

*Treatment.*—The frequency of tubercular affections is something appalling, and though the virulence of tuberculosis has made it one of the greatest scourges of humanity, yet the more complete knowledge of its natural history, its pathology and terminations, and the influences which modify its course, have done much to bring it under the control of science. At least one person of every seven dies of some form of this disease. Its ravages are seen not only in its death-roll, but in disfiguring scars, crooked spines, and stiff and deformed joints. While pathology has been showing the natural course of the disease, surgery has been making advances which enable us to utilize the added knowledge.

Though the bacillus is the essential cause of tuberculosis, yet the element of fitness of soil is one of great importance. No doubt many persons, from birth, possess a degree of resistance to infection that would insure their safety even against direct inoculation. On the other hand, there are certain conditions that may be considered as promoting the fitness of the tissues for the development of the bacillus. Chief among these may be named *inheritance, defective hygienic surroundings, poor food, and age*. Bone tuberculosis manifests itself especially between the ages of three and nine years, and its time of greatest frequency of occurrence corresponds with the period of greatest activity at the places of growth in the long bones.

The medical treatment of those suffering from osteo-tuberculosis must be tonic and supporting. As in other forms of tuberculosis, bitter tonics, arsenic, quinine, iron, and cod liver oil, must be given. Of these, the last is most to be depended upon. Of much greater importance, however, is the dietetic and hygienic treatment. The most potent agents for good are found in sunlight, fresh air, and physiological rest.

*Case 1.* T.H., male, æt. 32: good family history; of good habits: had always been healthy till eighteen months previous. At that time he fell into a lake, and after removal was resuscitated with difficulty. Did not regain his usual health, and twelve months afterward felt pain about left hip, groin, and thigh. Was soon confined to bed: had much pain in thigh and

knee. Soon pus formed, and openings were made in the perineum and on the outer side of thigh below and behind the great trochanter. Bare bone is now (March 15, 1890) found at the upper part of shaft of femur and the pelvic bones. Measuring from the ant sup. sp. process there is two inches of shortening; suppuration is abundant; there is great emaciation, waxy color, and râles at the back of lungs from hypostatic congestion; 45° of flexion.

Fixation of the limb by the Thomas' posterior splint; ordered to be carried out and kept out of doors every fine day, and given emulsion of cod liver oil and ext. malt. With little modification this treatment was continued. July 17th patient wrote: "My sores have quit running; my leg is healed up; there is not much pain. I have gained more than forty pounds in two and a half months." I have not examined this patient since the splint was applied.

Tuberculosis is a self-limited disease as much as smallpox or scarlet fever. The bacillus is short-lived and perishable, instead of being tenacious of life. If nature can be so supported as to bear up till the bacillus has lived out its short span of existence, and if strength can be imparted to repair the ravages committed by the enemy, then the once tuberculous patient may again enjoy robust health. As witnesses to this fact we may point to many who for years were invalids because of the invasion of this disease, who have survived its virulence, and who, though in most cases still bearing the marks of the conflict, yet are to-day active and useful members of society.

In the matter of treatment the army of surgeons have separated themselves into two hostile camps. They have been called by John Croft, of St. Thomas' Hospital, the *excisionists* and *non-excisionists*. While discussion from these extremes may do much to throw light upon this subject, yet to moderate men the divorce thus effected must be viewed as disastrous in practice. Neither party is in possession of "the truth, the whole truth, and nothing but the truth."

The surgeon who would never resort to operative measures would lose much valuable time, and could not be credited with true conservatism. Foci in the vicinity of a joint are a great menace to its safety; and timely evacuation by operative measures is truly conservative. As

the diagnosis of a single central cheesy focus is not easy to make, if its presence be suspected in the vicinity of a joint, exploration by a probatory incision is justifiable.

While much may be said for operative treatment, yet it must ever remain a fact that the great majority of these cases will come under the notice, not of the well-equipped hospital surgeon who is prepared to carry out, with thorough asepsis, the latest and most approved operative measures, but of the busy practitioner who deals with all kinds of cases in his daily round. Hence methods of treatment which can be adopted without resort to heroic measures are of much greater general interest and value to the profession. In using the terms *operative* and *non-operative* treatment, if one were bound to admit that non-operative treatment meant neglect, and that its results were less successful than those following operation, then he would be in error in advocating the palliative as against the more active treatment. In speaking of the treatment of tuberculous joint affections, Croft, who himself advocates operation, says: "After all deductions have been made on both sides, it must be admitted that, up to the present time, the rate of mortality is slightly in favor of the non-excisionists."\*

Howard Marsh, of London, claims to have more than ninety *per cent.* of cures of cases of hip disease, and to get better results, *i.e.*, less shortening, less deformity, etc., than are obtained by operative procedures.

The non-operative treatment of tuberculous affections of joints or of the bone in the immediate vicinity may be summed up under two heads:

1. *General treatment.*—This comprises the treatment by drugs, before referred to, and general dietetic and hygienic care.

2. *Physiological rest.*—The importance of securing rest for the inflamed part is as important here as it is in the management of a case of pleurisy, or of conjunctivitis. In a tubercular focus the process of repair often meets with great obstacles. The embryonal cells, of low vitality from the first, become the victims of the ptomaines of the bacillus, and hence only under favoring circumstances, provided by the surgeon, can they develop into tissue of a higher type.

\**Lancet*, February 8th, 1890.



A prime requisite is to secure for the part a favorable condition of the circulation, which can be done only by keeping the part at rest. In order to carry out this indication efficiently, it may be necessary to keep the patient in bed. As these cases, however, are noted for their chronicity, and months or years are likely to elapse while under treatment, the confinement indoors entails the non-use of the most efficient agents at our command for sustaining the patient's

vital powers. The dietetic care of the case may be most thorough, but it will not avail if, through confinement and inactivity, the powers of

stiff. In March leg was swollen and flexed to nearly a right angle. Extension by means of a weight and pulley was now employed, and the flexion corrected. Was in bed five months; no discharge. Was in hospital September to December, 1888; extension by weight and pulley was employed. Abscess formed, and an opening was made on outer side of the thigh.

July 14th, 1889. Is pale, but fairly well nourished: the leg is swollen and tender throughout its whole extent. Is moved with much difficulty because of the tenderness; suppuration continues from sinus at outer side of thigh. No flexion, no shortening, no movement at the hip.

Aug. 6th, 1889. Applied a long splint, which afforded extension and fixation and acted as a perineal crutch, and

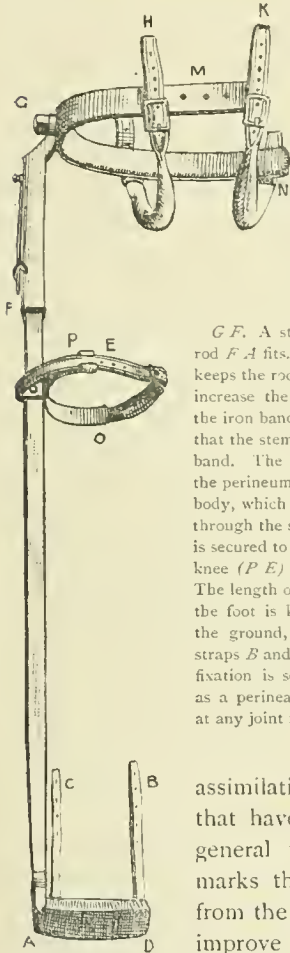


FIG. I.

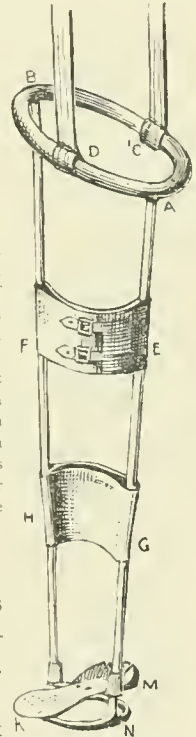
*G F.* A steel box into which the steel rod *F A* fits. At *F* is a spring stop that keeps the rod in place, and enables one to increase the length from *G* to *A*. At *G* the iron band *N G M* is fixed by a bolt so that the stem *G A* does not move upon the band. The straps *H* and *K* pass under the perineum and carry the weight of the body, which is transmitted to the ground through the stem *G A*. The patient's leg is secured to the stem by a strap above the knee (*P E*) and another above the ankle. The length of the stem is so adjusted that the foot is kept about three inches from the ground, and extension is made by straps *B* and *C*. Thus extension is made, fixation is secured, and the splint, acting as a perineal crutch, prevents concussion at any joint in the limb.

assimilation give out. Cases that have shown a pallor and general want of tone, that marks the plant that is kept from the sunshine, will often improve rapidly when taken from bed and permitted to live a great part of the time in the open air.

*Case 2.* J.K., male, 17 years. At Christmas, 1886, had pain in sacro-iliac region, which afterwards extended to the front of body. Was confined to bed for some weeks. In May, 1887, a spinal support was applied for Pott's disease. At Christmas, 1887, sat down after skating, and on rising was unable to remove his skates. Was confined to bed, the right leg being painful and

FIG. II.

*A N* and *A K* are steel rods. *A B* is an iron ring, well padded and covered, and fixed so that its plane makes an angle of  $125^\circ$  with rod *A N*. The ring is shaped accurately to the shape of the upper part of the thigh. *H G* is a broad strap behind calf of leg, and *F E* one that passes in front of the lower end of the femur. *K V* is a foot-piece that moves up and down upon the rods, and serves to keep the toes from touching the ground. The length of rods is so adjusted that the foot comes two or three inches above the ground, and the splint becomes a perineal crutch.



had the patient out of doors as much as possible. Improvement was immediate and rapid (*vide* fig 1).

Oct. 11th. No discomfort in walking with splint, leg handled freely; discharge has ceased, appetite good, sleeps well.

Improvement has been uninterrupted, except for the appearance of a cold abscess in the dorso-lumbar region. Since the spring of 1890 he has been attending regularly to his duties as book-keeper, and is still wearing the splint.

By the employment of some form of portable fixation apparatus this end may be achieved. If the tubercular focus be in the foot or in the vicinity of the knee, the part may be kept at rest and in comfort by encasing it in a gypsum bandage, while the patient is permitted to move about

either with crutches, or, better, protected by a Thomas' knee-splint, which is equally effectual for the protection of the foot (fig. 2). If the disease be in the vicinity of the hip-joint, the American traction-splint (case 2 and fig. 1) affords rest to the part and at the same time acts as a perineal crutch, permitting movement without much inconvenience. Patients wearing these may go to school or to business, and find themselves but little hampered in performing the ordinary duties of life. More complete fixation of the hip-joint and more effectual rest for the diseased part may be obtained by the employment of a modification of the Thomas' hip-splint, by which traction is, at the same time, employed.

In disease at the hand, elbow, or shoulder, the management is more effective and simpler. The hand or wrist may be encased in gypsum. The elbow may best be kept at rest by carrying the hand up to the neck and securing it there by a roller passed around the wrist and neck alternately; in such a manner as to hold them in close contact, but not to permit the bandage to so tighten upon either as to interfere with the circulation. This is a very simple and most efficient means of immobilizing the elbow, either in disease or after reduction of dislocation, and was first employed by Hugh Owen Thomas (*vide* fig. 3).

The same bandage, together with a well-moulded cap over the shoulder, may be employed for keeping this joint at rest. Even when it is necessary to keep the patient entirely at rest upon a bed, it is better that the bed or frame employed should be readily movable, so that the patient may be carried out of doors, and kept in a tent or in the shade of a tree, if the direct rays of the sun are too strong.

Even when the patient must be confined to the bed and to the house, as must be done sometimes, in winter, it is better to employ a splint to secure fixation and traction than to use the weight and pulley. The former is attached

only to the patient and moves when he moves; the latter is attached to the bed as well as to the patient, and movement may be effected only at the risk of disturbing the limb.

When it has been found necessary to operate for the removal of the diseased area, fixation should be maintained for a long time. It is necessary not only to assist in guarding against the return of the disease, but to prevent deformity. Up till the present time the treatment of joint diseases due to tuberculosis by non-operative measures has given better results than treatment by excision of the joint. The rate of mortality is better, the functions of limb are better preserved, the dangers of general infection are not

so great, and the time required to accomplish a cure is probably not much longer. Under the plan of treatment by a portable apparatus the element of time is not one of great consequence, because the child may frequently go to school, and the adult attend to business for years, while under treatment. Parents acquiesce more readily in a plan that does not involve the use of the knife; and it is one that is at the command of the general practitioner.

When the presence of pus is demonstrated, and it is accompanied by declining health, operative measures should be employed to give

it exit, and at the same time diseased tissues may be removed. When a tuberculous focus is so situated that it may be removed without opening a joint, it should be done. Undoubtedly there is a large field for the wise employment of operative measures: but, in the main, Nature is a wise mother, and any aid proffered her should be discreet. There are two indications upon which we may confidently rely, in the fulfilment of which we certainly strengthen her to do the best for her afflicted children—give the patient *good food, good air, and sunlight*, and give the diseased member *rest*.



## CEREBRAL ABSCESS

BY J. E. GRAHAM, M.D.

Professor of Clinical Medicine in the University of Toronto.

Cases of cerebral abscess, although not frequent, occur sufficiently often, and present such obscure symptoms that no apology is necessary for bringing this subject before the Society. Moreover, the history which I shall relate bears upon the department of cerebral surgery, to which so much attention has been given of late years.

Gowers divides the immediate causes of abscesses into two classes, the local and the distant.

Of the local causes, out of two hundred and forty-one cases, 42.5 per cent. arose from ear disease, and 25 per cent. from injury.

Fifteen per cent. belonged to the second class, having been produced by distant causes, such as pyæmia.

Cerebral abscesses may be due to injuries so severe as to fracture the skull, or so slight as to produce no lesion of the skull or integument.

It is probable that in the latter case the abscess is due to a tearing apart of the brain substance, and the lesion is often found at some distance from the bone. The following case seems to belong to this class :

E. R., æt. 41, carpenter, was admitted to the Toronto General Hospital on November 19th, 1891. The patient had been healthy up to the commencement of the present disease. No history of syphilis. On November 5th, just two weeks before admission, while at work on the floor of a three-storey building, he was struck by a small block of wood, which had been sawed off the end of a scantling by another workman in the upper flat. The patient wore at the time a tweed skull cap. The blow was so slight that he paid little attention to it, but continued his work as before. He did not lose his balance. That evening he requested his wife to look at his head, as it felt as if it had been cut. Upon examination she found a lump about half the size of an egg, situated a little to the right of the vertex. There was no abrasion of the skin. He refused to have anything applied, went to bed as usual, and proceeded to work the next morning. When he came home that night he complained of shooting pains down the side of

his head and back of his neck. These pains continued throughout the week, and although they were severe enough to prevent his sleeping he worked on at his trade as usual. Towards the end of the week he complained of chills and fever. His fellow-workmen noticed that he acted strangely a day or two before he gave up work.

On Friday, the 14th, he persisted in smoking in the building, although against the rules. When admonished he said he was not smoking, as there was nothing in the pipe. Although the severe pain in the head continued, he would not see a physician, thinking that he would soon be all right.

On Saturday, the 15th, he was constrained to stay at home, although much against his will. On the afternoon of that day his eyes began to water and saliva to run from his mouth. He made no attempt to wipe away the saliva when requested to do so. He seemed to have no idea of time, asking on Sunday morning at nine o'clock if it was not bedtime.

On Sunday afternoon he became delirious, and on the Monday stupor gradually supervened.

On Wednesday, when he was admitted to the Hospital, he was partially comatose; could with difficulty be roused to open his eyes. Paralysis of the right arm was noticed, with increased knee-jerk on the right leg. Pupils did not respond readily to light. Pulse, 46; temperature, 100.5; respiration, 40; quiet. There was no sign of external injury to the head.

Thursday, Nov. 20th: Patient is still in a comatose condition, but can be roused to open his eyes. Moans a little. Incontinence of urine from overflow. Pulse, which was 60 in the forenoon, gradually rose to 80 in the evening; temperature, 101; respiration, 36. In the evening the cheeks puffed out during respiration. Divergent strabismus; pupils contracted and very sluggish. Spasm of left leg and arm; picking of bed clothes and grasping his penis with left hand. Paralysis of right arm; knee-jerk on the right side much lessened; foot-clonus present on that side. Skin reflexes present on both sides. The lungs towards evening showed evidences of rales in the larger bronchial tubes. He resisted all efforts to give him milk, spitting it out of his mouth violently.



In the morning a drop and a half of croton oil was given, but it did not act. A consultation was held at four o'clock in the afternoon, when it was decided to operate. The slow pulse and coma pointed to compression. This might be due to meningitis, hemorrhage and clot, or to localized inflammation of the brain substance and consequent abscess. It was also thought possible that a neoplasm might be present with a surrounding cerebritis.

The length of time (two weeks) which existed since the injury would preclude fresh hemorrhage. If a clot had occurred at that time it would have undergone decomposition, resulting also in abscess.

As the spasm or irritation symptoms were found on the left side, and the history pointed to injury on the right side of the head, it was resolved to trephine on the right side, convenient to the leg and arm centre.

In that situation the brain was found healthy, and although the hypodermic needle was inserted into the brain substance in different directions, no pus was found.

An opening was then made on the left side over the arm centre. In this situation there were evidences of inflammation. The dura mater bulged out through the opening, and upon cutting into it inflammatory lymph was seen and small black clots were discovered on the pia mater. Gas was also seen to escape in little bubbles. It was then thought that we must be in the immediate vicinity of the abscess. The hypodermic needle was introduced and no pus found.

An enlargement of the opening was then made posteriorly, on the supposition that the abscess might be in the post cerebral lobe, but without result. The patient did not appear to suffer from shock, but gradually sank and died at 7 a.m. the following morning. No anæsthetic was given during the operation. He moved his left arm and leg when the scalp wound was made. His pulse remained between 70 and 80 during the operation.

*Post mortem* examination made three hours after death. His head only was examined. Upon removal of the calvarium and membranes an irregular, dirty, dark-colored patch about an inch square was seen on the upper surface of the left frontal lobe, close to the longitudinal

sinus. Upon cutting into the brain, this patch was found to be situated over an abscess, which was as large as a horse chestnut, and contained greenish-yellow pus which emitted a very offensive odor. It was situated over the anterior corner of the lateral ventricle, but did not open into it. A small amount of fluid was found in the ventricle. The choroid plexus was much congested upon the left side, and the cerebral convolutions were flattened. The abscess walls were quite thin. Nothing abnormal was found on the right side of the cerebrum.

In all probability in this case the abscess was the direct result of the blow, which must have been severe enough to produce a slight rupture of brain substance in a part of the cerebrum a little distance from the point of infringement. The question naturally arises, might not an abscess have existed previous to the accident? This is, I think, excluded on two grounds: (1) the walls were exceedingly thin, and (2) the patient appeared to have been in excellent health up to the time of injury. According to Fagge, four weeks is the time for a capsule to form in a case of abscess, as shown by the history of a number of recorded cases in which suppuration followed an accident.

Dr. Gull cites a case in which the absence of a limiting membrane was given as proof that the abscess did not arise from an injury received eighteen months previously. In another case the presence of a membrane was taken as proof that the abscess did not arise from pyæmia, the result of small-pox, from which the patient suffered within three or four weeks of his death.

These facts are important in a medico-legal sense, and would appear to prove that in the case related we had to deal with a recent lesion. Moreover, it is stated that in recent abscess the pus is green, viscid, and of acid reaction. In old abscesses pus is bright green and alkaline. No test was applied in our case.

Some years ago Dr. Temple presented before this Society the history of a case of cerebral abscess which I had the privilege of observing with him. In that case the acute symptoms, severe headache followed by coma, were not of more than two or three weeks' duration. There was, however, a previous history of the patient's having had epileptic convulsions, and he had

at times complained of peculiar, indefinite nervous symptoms for three or four months previous to the fatal termination. On *post mortem* examination an abscess the size of a walnut was found in the front cerebral region, which extended outwards to the membranes, producing localized adhesions, one about the size of a cent.

The wall of the abscess in that case was quite dense and thick. There was no doubt but that the patient had for months been able to attend to his ordinary business while an abscess of considerable size had existed in the cerebral substance.

The formation of an abscess under such circumstances as are given in the history of our case is an interesting pathological study. It is of course not difficult to understand that from continued compression a slight rupture of the delicate brain tissue might arise from a blow which is not at all severe; but if suppuration is necessarily due to the presence of bacteria, how could these organisms have penetrated the brain substance and set up a destructive process in its very centre? The pus was not examined for bacteria, but I have no doubt that if it had been they would have been found. It is probable that the micro-organisms which seem necessary to the formation of pus may at times find their way into the circulation from the alimentary canal, and if there is no lesion in the system they may be destroyed without producing any evil effects. If, however, in their course they should meet with a break in the tissue, or a weakened resistance, they might be able to set up the pathological process peculiar to their existence and growth. Could this have been an abscess of spontaneous origin, but recently formed? The other organs of the body were not examined, so that we cannot say whether any depot of pus or abraded surface existed elsewhere.

Wilks and Moxon have never met with a spontaneous abscess of the brain that could not be explained on a careful examination of the organs of the body. Chronic disease of the nose occasionally produces abscess.

In Guy's Hospital Reports six cases of abscess are recorded which sprang from lung disease. Inflammation set up by a thrombus washed out of the pulmonary vein, in bronchitis, tubercle, pleurisy, acute pneumonia, chronic pneumonia, with dilatation of the bronchi.

The most interesting practical point in connection with this case was the localization of the lesion.

Looking back, I do not now think we were warranted in opening the skull upon the right side.

It will be remembered that our reasons for that procedure were: (1) That the blow had been received upon that side, and, secondly, on account of the spasm of the left arm and leg. The paralysis of the right arm was explained on the supposition that a slow hemorrhage, occurring on the right side, might press over upon the left side of the brain, disturbing the motor centres upon that side.

If, however, the spasm of the left arm and leg had been due to a hemorrhage in their centre upon the right side, these symptoms would have come on early and would not have been delayed until the last day, as was actually the case. Then I think now the paralysis of the right arm could not have been accounted for on the ground that the lesion in the form of a gradually increasing clot existed on the right side and produced pressure on the left. It will be noticed that the arm centre is not situated near the vertex, and I am doubtful if any amount of pressure from the opposite side could produce such an effect as to cause paralysis.

The mere fact that the injury had been received on the right side ought not to have influenced us, because we know that the blow had not been severe enough to knock the man down, or to have produced even momentary unconsciousness.

It might have been asked: How do you account for the spasm of the left arm and leg when the lesion was found on the left side of the brain? The only way in which I can explain it is on the ground that some of the fibres of the motor tract do not cross over in the medulla, but pass directly down, forming the column of Turck, and that the muscles of the limbs upon the left side were influenced by these. Another condition was present which should have pointed out to us the left side as the seat of lesion. You will remember that on the first day after his admission there was paralysis of the right arm and slight paralysis of the leg, accompanied by increased knee-jerk, and that on the second day the paralysis of the

leg had increased and the knee-jerk was absent. This was evidence that the right leg centre, or the fibre leading from it in the left cerebrum, was at first irritated and then destroyed. Again, when the opening was made upon the left side, and evidences of an abscess in the neighborhood were made distinct by the presence of lymph and the bubbling of gas, we should have made the next opening immediately in front instead of immediately behind, as was done. The reason I suggested making the opening larger in the posterior direction was that the post cerebral region then was a large, silent area in which abscesses are not infrequently found. I was not aware at the time that at the onset of the trouble our patient had suffered from distinctly mental symptoms. He would, for instance, think he was smoking when the pipe was held in his mouth, with bowl downwards and no tobacco in it. He lost proper ideas of time, and in other ways acted queerly. These symptoms pointed to a lesion in the anterior rather than the posterior part of the cerebrum.

It must of course be said, in justice to the physicians and surgeons in attendance, that it was difficult to obtain a reliable history from the friends of the patient, and that nothing of a subjective character could be elicited from the patient himself on account of his comatose state. Moreover, on account of the urgent condition of the patient, little time was given for a thorough study of the case. From it, however, there are some lessons to be learned :

(1) We should obtain and write down all the facts in connection with the previous history. It is not always easy to do this, especially in hospital cases.

I would like to state here that when physicians throughout the city send patients to the hospital in a comatose or partially comatose state, they should also send a few notes of the previous history of the case. I have frequently found it simply impossible to arrive at a satisfactory diagnosis on account of the absence of such a history.

(2) A careful examination of the signs present should be made in a systematic manner. Very often much more can be discovered than at first seems at all probable.

(3) In the consultation which follows there

should be a full and free expression of opinion by each consultant. In this way any errors of reasoning may be corrected and a better conclusion arrived at. In the case related very little time was available for discussion.

(4) The ordinary trephining instruments are not sufficient for these difficult operations. In cerebral, as in abdominal surgery, instruments adapted for this department should be at hand, so that the surgeon might be prepared for any emergency.

The success of the surgical treatment of abscess of the brain, when the operation has been performed under favorable circumstances, has been very satisfactory.

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ADDRESS DELIVERED AT THE SPECIAL CONVOCATION FOR THE MEDICAL FACULTY OF UNIVERSITY OF TORONTO,  
MAY 6TH, 1891.

BY SIR DANIEL WILSON, LL.D., F.R.S.E., PRESIDENT.

At this convocation of the University for the awarding of honors and the admission to degrees in the Faculty of Medicine, we are once more reminded that in the reorganization of the Provincial University on a wider and more comprehensive basis one of its results has been the restoration of the Medical Faculty. By the same legislative enactment we are also enabled now to welcome Victoria University into the closest bonds of federal union, to co-operate with us in the maintenance of one uniform and high standard of education.

Among the changes by which the former University Act of 1853 aimed at, more efficiently adapting the Provincial University alike to the wants of a young country and to the demands of higher education in an age of unwonted progress, was the establishment of professorships in mineralogy, geology, and natural history, along with the advancement of all departments of scientific education to an important rank in the prescribed requirements for a degree. It was at the date of that change in the scheme of University education that I entered on my duties as a member of the University Faculty; and fresh as I then was from Edinburgh, with its great schools of science and medicine in closest co-operation, it was with mingled wonder and re-



gret that I learned of the abolition of the Medical Faculty. This act was the work of politicians and educational reformers before I reached Canada; and it is better perhaps that I should not now enter into a discussion of the reasons assigned for a procedure which left the University with the power of giving degrees in medicine, but excluded it from all share in the training for graduation. But at this comparatively remote date from an Act of the Legislature of a former generation, before the Dominion of Canada was called into being, I may perhaps, without risk of offence to any surviving representative of the moving spirits of that transitional period, revert to a condition of things on which I looked well nigh forty years ago with wondering eyes. A medical man of exceptional ability had unfortunately turned aside from the ordinary duties of professional life to minister to the diseases of the State, and apply a radical cure to the body politic. After failure in an attempted employment of the most drastic measures as a political elixir of life, a new turn in the wheel of fortune placed him in the influential position of a member of the Canadian Executive. It thus fell to the share of a doctor of medicine to play the part of surgeon in prescribing restoratives for the peculiar ailments with which old King's College was afflicted, and, from whatever motive, the political M.D. insisted on amputation of a limb.

A school of science is not necessarily dependent on medicine, but from the early days of the famous Arabian Schools of Science of Salerno and Cordova, the two have gone hand in hand, and chemistry and biology have derived their best stimulus from such conjoint action. But happily in those early years of the remodelled University, the medical students still sought in Prof. Croft's lecture-room and laboratory the indispensable chemical instruction which could not then be had elsewhere. It was at a time when the opponents of national unsectarian education persistently clamored for a division of the endowment, and, with this object in view, perseveringly reiterated their demands for returns of the number of students in attendance. It would be ungrateful in me to forget the yeoman service there rendered to us by the abolished Medical Faculty, who thus helped to swell our meagre ranks, and so tided us over the critical

years of reorganization. *Vetus arbor arvo* is the motto attached to our University crest of a luxurious maple tree, but the seed had scarcely been cast into the ground when, instead of a young sapling, we were called on to produce a full grown giant of the forest, under the shadow of which the new generation might sport itself and gather in ripened fruit. The first missionaries to Tahiti, in striving to superadd some of the elements of civilization to their ethical instructions, taught the natives to plant corn and beans, but they looked in vain for their harvest, till they discovered that the impatient natives, like our wise legislators, went by night and plucked up the grain to learn how it was growing. It is not without a grim sense of humor that I recall the service rendered to us in our hour of need by the moribund Medical Faculty, for I was then starting as Professor of History with one of my classes numbering two students. Happily I was not a medical professor, but how I and my chair escaped the amputating knife is a marvel.

But a review of the Department of Biology, or Natural History, as it is styled, in those same critical years, abundantly illustrates how prejudicial the abolition of the Medical Faculty proved to that important branch of scientific education. It was not without difficulty that a niche for it was found in the Arts course. It seemed the least in demand of all the sciences; and for years the removal of its professor would have very slightly affected the work of the University. Now, on the contrary, with the stimulus which the restored faculty has supplied, and the ability and zeal with which the joint work of the chairs of biology and physiology are carried on, the subject has become a popular one with the students of Arts, and for the first time is fully recognized as an important branch of general education. The progress thus achieved has been accompanied with demands for adequate appliances and accommodation, which have been responded to on a scale that excites the envy of sister sciences. At the inauguration of the new building for this department, Prof. Osler, of Baltimore, and Prof. Vaughan, of Ann Arbor, were alike hearty in their sympathetic congratulations, and we recall with gratification the high terms in which Prof. Minot, of Harvard, expressed his estimation of Prof. Ramsay Wright as an in-

structor; and then adding, "I congratulate you all most heartily upon the possession of this beautiful building. We have in the United States, unfortunately, scarcely any building to equal this, none, I think, superior to it, for the purpose for which it is designed. Even my own University of Harvard, one of the richest and oldest in the States, has not anything I would call better than this."

The extent to which the appropriation of provincial funds for the encouragement of professional education is advisable has anew become a subject of interest. It is not to be questioned that the primary aim of the University as a provincial seat of learning is to stimulate higher education in the true sense of intellectual culture. One grand aim must be to elevate the whole standard of intellectual culture in the community. Knowledge is power, and it requires wide and thorough culture to enable a people to turn this power to practical account. We need not only the power of the gifted few, but the wise sympathy of a well-educated community. The primary aim of our Arts course is education *per se*. Priceless harvests are ours if we will only reap the fruits of the old seed-time of Greece, of Rome, and of later generations. The more education is prized for its own sake, and not as mere professional training, the richer and more lasting will be the final results. But in a young country such as ours few indeed can hope to give up their lives to the luxury of study, to desert the practical claims of duty or the homely demands of agriculture to plough the classic field, or abandon the work of the surveyor and civil engineer in the hope of producing a new Principia. Hence, our Arts work in the University curriculum is so methodized under various departments of study as not only to secure thoroughness in the work of our honor students, but also to admit of their selecting courses of study best adapted to their future aim in life.

Hence, while the work of the undergraduate throughout his four years' course of study for his degree in Arts is strictly educational, and not professional, training, it is nevertheless with many, indeed with the large majority of our students, an indispensable requisite for their future life work. We are training men for teachers, for land surveyors, for civil engineers,

for assayers and miners, for theologians, for bankers, lawyers, statesmen, and political economists, and unquestionably also for medical practitioners. The remodelling of our departments of science and the prescription of their special honor work have this as well as other aims in view; nor is there any department of general education in which the whole community have a deeper interest than in the thorough scientific training of our medical practitioners. I cannot imagine that the intelligent citizens of Ontario will ever be persuaded to view with disfavor the devotion of a portion of the resources of a national institution for the purpose of elevating medical practice from mere empirical routine to processes based on the determination of a scientific diagnosis and an intelligent mastery of the laws of pathology. My long experience in connection with higher education in Canada enables me to look back upon a time when the machinery of our school system had been efficiently remodelled, but the teachers had still to be trained, and much had to be accomplished before the results even of our common school education could be accepted as satisfactory or creditable to the country. It was difficult to persuade either legislators or people to recognize the fact that only by the liberal fostering of higher education in its most recondite branches would the training of their children in the rudiments of knowledge attain a satisfactory efficiency; and so in like manner must our people realize the fact that it is in the elevated ranges of scientific research, in which the chemist, the biologist, and the physiologist are in search of abstract truths of science, that the discoveries are made on which the ultimate triumphs of the healing art depend. Sir Humphrey Davy's experiments on the respiration of nitrous oxide prepared the way for the discovery of the properties of chloroform and other anæsthetics and hypnotics, by means of which an incalculable amount of human suffering has been prevented.

It is pleasant for me now to look back over the vista of half a century and recall the work of Sir James Simpson, the valued friend of my early years, and my intercourse with him when he was pursuing the experiments that were destined to enroll his name among the benefactors of his race. His anæsthetic gift has proved a priceless boon to humanity. Under its beneficent

influence the terrors of the operating theatre have to a large extent ceased; even the horrors of the bloody battlefield have been mitigated; and life-saving operations are now welcomed where formerly life itself seemed to be purchased at too costly a price under the anguish of the surgeon's knife.

In this one direction we owe to the practical fruits of scientific research as great a boon to humanity as the records of progressive knowledge disclose. But it cannot be doubted that we are on the eve of equally grand discoveries in medical science. Until the practitioner clearly understands the sources of disease his practice must be empirical, and the results too often a matter of chance. The contributions of Tyndall, an eminent physicist, have thrown a flood of light on the mysteries of pathology. It is now recognised that the source of many diseased conditions of the body is connected with the presence in the tissues of living organisms. The microscope in the hands of the scientific physiologist bids fair to revolutionize medical science. With its aid the study of bacteriology is coming to occupy the largest share in the work of the pathologist, nor is one incident in the history of its study in this University likely to pass soon out of remembrance. In accordance with well-known precedent the evening of the 14th of February was, last year, given up to the students of the University for their annual conversazione carried on under the directions of the Literary and Scientific Society of the undergraduates. The Senate chamber was set apart for a series of microscopic illustrations, including a set of microscopic slides prepared by Prof. Ramsay Wright, as a "Display of Bacteriology, including the La Grippe Microbe and the Development of the Chick." Two of the assistants, in carrying up stairs the lamps required for illumination of the microscopes, stumbled and upset them. The furnaces had been in constant operation for the requisite heating for upwards of four months, in consequence of which the wood throughout the building was so dry that it readily ignited, and, notwithstanding every effort to arrest the flames, the fire involved the ruin of our beautiful University building, and along with so much else, the loss of many of the prized contents of our museums. It is not perhaps even now generally known that our

museums of biology and ethnology, with all else involved in the dire conflagration, fell a victim to la grippe. The loss of a very valuable set of microscopes might seem, under such circumstances, a fitting reprisal. But the microscope must resume its place in our laboratories, for it has become the grand instrument in the use of which the medical student finds new revelations of the sources of disease, and thereby learns how to master them by an intelligent application of remedial measures. Until the physician can give some better reason for the curative means he resorts to than that he is following the prescribed usages of the profession, he is little better than an empiric. The determination by Prof. Tyndall of the presence of living germs in the floating dust, the following up of this with the assignment of the source of zymotic disease to an alteration of the tissues analogous to a fermentation, and the tracing of this to a specific microbe, are all important steps in advance. The causes and conditions once known, the effective remedy must follow. The scientific physician no longer gropes blindly like the Indian medicine men after a vague possession of evil. Science is now pointing the way with clear vision towards a definite curative system. Hence the important discoveries of Pasteur, Koch, and other eminent physicians, who are not to be held responsible for the exaggerated extravagances of the gossip of the daily press, as though the Elixir of Life had been discovered and disease and death were at an end. We see as yet but the glimmer of a new dawn. That the principle has been mastered is the grand point. Surprising results have undoubtedly rewarded the experiments on lower orders of animal life, but the history of the investigation thus far shows that much caution must be exercised in arguing from one animal to another, and, above all, from lower animals to man. Prof. Ramsay Wright has spent the past winter in the laboratory at Berlin in diligent study of this vital question. Before he returns he purposes passing some time with Pasteur at Paris. The students alike in the departments of Arts and Medicine cannot fail to reap important additions to their own knowledge and large aid toward the full mastery of the method of study and researches as the results of his winter's labors on their behalf.



And now, permit me to address myself specially to you who this day, figuratively, I trust, no less than literally, lay aside the habit of the medical undergraduate for the doctor's gown. You are now to enter on the practice of a profession no less responsible in the grave trust it involves than honorable in the respect that it commands when its duties are faithfully performed. You bear away with you the honors of a University which aims at maintaining a high standard, no less in the principles that actuate its members than in the requirements for its degree. No profession is more honorable than yours. Nor does even the Christian minister command a more sacred confidence or a higher influence than is freely accorded to the high-minded physician in many an hour of domestic trial and bereavement. The medical missionary is indeed an apt union of two compatible functions; and with the Great Physician, the Divine Healer, as your exemplar, you will find yourselves admitted to the closest confidential relationship, not only in seasons of sorrow and suffering, but also in the happy hours in which a new life adds fresh hopes and joys, and kindles anew the domestic hearth with a brighter glow. I wish you now God-speed as you bid adieu to all the pleasant memories of student life, to enter on the battle which all must wage. I doubt not you will look back in many a graver season on the busy, happy hours, full of brightest hope, passed in the college halls. I trust you carry away with you friendships to endure through life. None are more delightful than those which, formed in undergraduate years, stand the after strain, and constitute bonds stronger than ties of blood. Let me add, in conclusion, that in the act of kneeling to receive your degree you have to-day performed the old act of feudal homage, not to me, but to your Alma Mater. Her vows are on you. You go forth as true knights plighted to honor and fidelity. See that no act of yours brings discredit on her. Your failure will tarnish her honor as the mother of unworthy sons. But also your triumphs are hers as the fruits of her training, and no patrician style, or inherited titles, can compare with the cherished memories of those whose names are proudly recalled by later generations in their own college halls, or even of those whose too brief career yields but

the bud and blossom of promise, but who live embalmed in kindly memories, not less genuine. Poets are by no means wanting on our Canadian Parnassus when the cypress prematurely displaces the myrtle wreath; and if we cannot always command a Milton to "build the lofty rhyme," it is no less sincere regard that perpetuates the name of the brother graduate when

" Lycidas is dead, dead ere his prime;  
Young Lycidas, and has not left a peer."

## Selections.

A CASE OF PROBABLE CONGENITAL OBLITERATION OF THE INFERIOR VENA CAVA, WITH RESULTING VARIX.—The patient was referred to me for the care of an ulcer of the right leg by Dr. J. Collins Warren, of Boston, to whom I am indebted for permission to report the case in full.

G. P., a boy seventeen years old, was born of healthy parents, who have five other children, all of whom are well and have no deformity. The mother noticed that while yet a baby this boy's veins seemed large over his belly, and the older children called the bluish configurations on the abdomen a map. When two years old an attack of brain trouble caused him to screech night and day, and at the same time he had starting fits. Upon recovery from this brain trouble he had measles and whooping-cough. Although he has always been a delicate child, yet up to three years ago he was fairly well. At that time he had typhoid fever, which lasted long and was severe, and left him very weak. The limbs swelled very much after this illness, and the veins of the lower extremities were larger than before. About six months ago an ulcer appeared on the right leg, which healed very slowly. At present the boy's height is one hundred and seventy-two centimetres; weight a little over fifty kilogrammes. He is thin and has a peculiarly tired look in the face.

Upon examination of the body the following appearances are seen: The superficial abdominal thigh and leg-veins are prominent. Very small, fine veins are seen all over the surface of the lower extremities between the larger branches. There is a decided difference in the size of the two legs. There is no marked œdema present, but the whole mass of muscle of the calf and

thigh seems full and distended. A recumbent posture and bandaging diminish the swollen condition very perceptibly. There are no hemorrhoids, nor is there a varicocele. Any injury to the skin of the legs is followed invariably by a superficial ulcer which is slow in healing. At present there is a new ulcer on the left leg. The heart, lungs, and abdominal viscera are apparently, as far as careful physical examination can determine, in normal position and condition. As to the probable cause of the present condition: The enlargement was noticed at birth; it therefore had its origin before birth. There is evidently an obstruction to the return of blood by the natural channels from the lower extremities. The most probable explanation of this condition is that there is a congenital narrowing or obliteration of the inferior vena cava. Knowing the frequency of the occurrence of phlebitis after typhoid fever the increasing difficulty which this boy found after the illness from this fever is not to be wondered at. The case is unusual, and serves to illustrate the possibility of the existence of greatly enlarged and distended superficial and deep veins of the lower extremities without resulting oedema. As for treatment, the boy is bathing regularly and carefully, avoiding slight knocks and bruises of the skin, and is wearing properly-fitting silk elastic stockings which reach to the knee. Operative interference is evidently not indicated.—*By Charles L. Scudder, M.D., Assistant in Clinical Surgery, Harvard University, Boston, Mass., in the Archives of Pediatrics.*

ATROPINE IN ENURESIS.—The following is a brief account of a trial with atropia in twelve chronic bed-wetters in the New York Infant Asylum, Mt. Vernon, N.Y., and is published by the courtesy of the attending physicians: Nine boys and three girls, the ages ranging from four to ten years, were selected for treatment. All were in fair general health, and no cause of the trouble could be found. They had been through the usual routine treatment with strychnia, belladonna, etc., without improvement. They had always been troubled with enuresis; all wet two or three times during the night, and three once or twice during the day in addition to the nocturnal incontinence. The oldest, a boy of ten, was returned to us from the West,

where he had been sent by the Children's Aid Society, having been pronounced incurable; he wet both day and night. It is a custom in the institution to put the children to bed at six o'clock, and to take them up at ten o'clock to urinate. Being desirous of testing the value of atropia, the habits of life were not changed. The plan of treatment followed was that used by Dr. William Perry Watson (October *Archives*, 1889). A solution, consisting of one grain of sulphate of atropia to one ounce of distilled water, was ordered, and of this one drop was given for every year of age of the patient, at 4 and 7 p.m.; one-half of this quantity was given, however, in each case for the first few days; no unpleasant symptoms followed, and the full amount was given. Physiological symptoms were produced in three, but were slight and of no importance. After six weeks of treatment slight improvement was noticed in four—would go one or two nights in a week without wetting; at the end of the third month these four wet but once or twice a week. Seven were practically well at the end of the fifth month, rarely wetting. The treatment, however, was continued as before two months longer, when the dose was reduced one-half; this was given two months, and then stopped. It is nine months since the treatment was discontinued, and there has been no return of the trouble. The remaining five, which includes the girls, showed but slight improvement at the end of the fifth month of treatment, wetting nearly every night. During the next three months the improvement was gradual, and at the end of the eighth month they wet not oftener than twice a week. During the tenth month there was only an occasional wetting. The dose was reduced one-half, and after one year of continuous treatment there was no wetting. The atropia was stopped, and there has been no return of the enuresis in six months. Eighteen months ago we had twelve chronic bed-wetters of the worst order; to-day they are well—the only medicine used was atropia, given as above.—*By Charles G. Kerley, M.D., Resident Physician, New York Infant Asylum, Mt. Vernon, N.Y., in the Archives of Pediatrics.*

Two cases of death from hydrophobia in the United States have recently been reported, one in Connecticut and one in Indiana.

**CHRONIC RHEUMATISM AND THE NERVOUS SYSTEM.**—A novel and suggestive, if somewhat revolutionary, theory in reference to the dependence of chronic rheumatic joint changes on a morbid condition of the central nervous system is advocated in a work by Dr. Wichmann, of which an abstract is furnished in a recent number of the *Centralblatt für Klinische Medizin*. The author began his work six years ago, with the view of explaining the nervous symptoms associated with rheumatic joint affection, and the dependence of those upon a central cause was first suggested by the occurrence of symmetrical phenomena, such as patches of erythema, subcutaneous nodules, etc. Charcot has explained the occurrence of contractures in rheumatism by supposing that there is an inflammation of the articular nerves, the influence of which is transmitted to the centres in the cord, there giving rise to irritation of the motor roots; and the fact that the contracture is usually in the flexed position is explained by the greater power of flexors as contrasted with extensors. But it is pointed out that this would not explain the occasional occurrence of extensor contraction, and that, moreover, in other conditions giving rise to joint affection, such contractures do not take place. Further, as supporting the theory of a central lesion for those conditions, attention is directed to the occurrence of arthropathies in tabes and other spinal conditions, and it is contended that a feasible explanation of the vaso-motor and trophic disturbances—such as “glossy skin”—as well as of the disturbance of sensibility, is offered by such a hypothesis.—*The Lancet*.

**CHLORIDE OF ETHYL AS A LOCAL ANÆSTHETIC.**—As a substitute for ether spray as a local anæsthetic, M. Monnet has introduced a method of freezing by means of chloride of ethyl, which is highly spoken of by Dr. C. Rédard, clinical professor at Geneva School of Dentistry. Chloride of ethyl is a colorless liquid possessing an ethereal odour, with a boiling point of 50° F. It is hermetically sealed in glass tubes containing ten grammes, one end being drawn out into a fine point. When required for use the point is broken off with a pair of forceps, or by hand, at the narrowest part, which is marked by

a file scratch on the glass, and the warmth of the operator's hand is sufficient to cause a very fine jet of the chloride to be projected on the part to be anæsthetised. One great advantage claimed for this method is that no apparatus is required, and its use is advocated in such cases as tooth extraction, neuralgia, etc.—*The Lancet*.

**SUICIDE BY DYNAMITE.**—A quarryman, who would appear to have been in a despondent state of mind from drink, committed suicide recently at Rothbury in the following extraordinary manner. He placed an ordinary dynamite blasting cartridge in the fold of his soft felt hat, set fire to the cartridge, and placed the hat on his head. In a few seconds the explosion took place, taking away the whole of the top and back of his skull, but he was found on the ground with his face uninjured; of course, dead.—*The Lancet*.

**THE USE OF FORCEPS IN BREECH CASES.**—Dr. Fürst, of Graz, strongly recommends the use of forceps in delayed breech cases, in preference to the fillet or blunt hook. The forceps should have a large cephalic curve, and the points of the blades should come close together. Traction should be made only during the pains, and then the force of uterine contraction and the pressure of the soft parts will tend to prevent slipping of the blades. The instrument is used, therefore, simply to supplement an inefficient driving force.—*Archiv für Gynakologie*.—*Med. Rec.*

**THE DA COSTA LABORATORY OF BIOLOGY.**—It is announced that the trustees of Columbia College have determined to devote the late Mr. Charles M. Da Costa's bequest of \$100,000 to the foundation endowment of a laboratory of biology, to be built on the grounds of the medical school (the College of Physicians and Surgeons), and that the professor in charge of the department is to be designated the Da Costa professor of biology. This is an early and striking manifestation of the good likely to result from the union of the College of Physicians and Surgeons with Columbia College.—*New York Medical Journal*.



# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

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TORONTO, MAY 16, 1891.

## A CASE OF ALLEGED MALPRACTICE.

An action was brought against Dr. Alfred Farncomb, who has been practising in Newcastle for the last seven years, at the Assize Court, Coburg, May 6th, to recover damages for alleged malpractice. The plaintiff, a farmer, received a dislocation of the shoulder. The evidence showed that the doctor adopted the usual methods in his attempts to reduce the dislocation, but failed. Whether a reduction at that time was possible cannot now be ascertained, but the strenuous opposition of the patient prevented a proper completion of the surgeon's efforts. As the patient was the sole proprietor of the shoulder, we suppose he had a right to stop the doctor at any stage of his proceedings, but in doing so he should suffer the consequences.

The doctor evidently used his best endeavors as far as he was allowed, and it remained a question whether he had shown want of skill. The medical witnesses approved of his methods, but the intelligent jury, composed of sympathizing brother farmers, did not, and decided that the delendant should pay \$300 for his want of skill in the transaction.

To decide such a question an intimate knowledge of surgery and anatomy is of course required. The average farmer, who so frequently acts on our juries, does not, as a rule, possess the required knowledge. It is perhaps only justice to the jurymen to say that they frequently realize this fact, and they appear by common consent to have adopted a simple rule in all cases of doubt, *i.e.*, give a verdict against the doctor.

We regret that Dr. Farncomb should have had so much trouble and annoyance over this case. He is a conscientious and painstaking physician. He had a patient who antagonized his best efforts. It is unfortunate that he did not relinquish the case at once. The risks connected with such cases ought to be pretty well known to the profession, and still they are not properly appreciated. All injuries in or near joints require very careful examination and treatment. The medical attendant should not submit to any interference on the part of the patient or his friends, and he should generally have a consultation with a brother practitioner, always when there is the slightest doubt as to diagnosis or treatment.

## ONTARIO MEDICAL COUNCIL CURRICULUM.

The committee appointed by the College of Physicians and Surgeons of Ontario, at its last regular session, to consider proposed changes in the curriculum, is, we understand, making a careful study of the question. The calendars of the best medical faculties from various parts of the world have been obtained, and their various requirements are being considered. The committee will probably find that no radical changes are required. The standard, in recent years, has been high, and will compare very well with that of any country in the world. We do not, of course, refer to such Universities as that of London or Edinburgh, or many of those on the Continent, but rather to the standard of a license to practise in the various countries. Ontario is undoubtedly ahead of any of the United States in this respect.

The *New York Medical Record*, in an article on "Cheap Doctors" (May 2), concludes as follows: "The defects in the American system of medical education are, (1) Too little preliminary education, and thus a lack of ability to grasp scientific principles. (2) Too much didactic work by teachers. (3) Too little clinical work by the students. (4) Too few tests of practical work. (5) Too short a time of actual work and study."

It seems that the evil effects connected with excessive didactic teaching at the expense of practical laboratory and hospital work are prin-

cipally confined to this continent and the serious defects in regard to preliminary education chiefly to the United States. The character of the "Leaving Examination" recently instituted by the Minister of Education, and the high standard to be required in the same, are likely to prove eminently satisfactory in Ontario.

#### MEDICAL ALUMNI ASSOCIATION OF THE UNIVERSITY OF TORONTO.

The re-establishment of a medical faculty in University of Toronto has caused much satisfaction among her graduates, as well as the general profession of the country. The Medical Alumni Association was formed May 25th, 1888, with Dr. Richardson, of Toronto, the first President. On that evening the first dinner was held in the Queen's Hotel, the President and 1st Vice-President occupying the chair and vice-chair respectively.

At that time we expressed the opinion that the Association had a bright future before it, and we rejoice to see that our anticipations have been amply verified. The recent meeting held in the lecture hall of the School of Practical Science, May 6th, at the close of the Medical Convocation, was a large and enthusiastic one. On the same evening there was a banquet in Mr. Harry Webb's dining hall, which was remarkably successful in all respects.

#### Meeting of Medical Societies.

##### THE TORONTO MEDICAL SOCIETY.

April 23rd, 1891.

The President, Dr. Spencer, in the chair.

Dr. Machell showed a patient suffering from a  
TUMOR IN THE RIGHT INGUINAL REGION.

The patient, Mr. M., æt 24, had been first seen towards the end of March; he was then suffering from a tumor situated just internal to the right anterior superior spine of the ilium; it was hard and brawny, but not tender. The history given was that in November, 1890, he had a bilious attack; vomiting occurred, followed by acute pain in the right inguinal region. He was confined to bed for a few days, and on getting up there was a lump in the region referred to, but

the soreness had disappeared. From November until March he continued at business, with occasional attacks of discomfort lasting a day or two. On advice of Dr. Machell, he laid up and has remained in bed for the last two or three weeks. The result has been that the mass has diminished in size, and is not tender, but there is distinct fluctuation at one point, and it is proposed to open there by a free incision. The diagnosis seems to lie between inflammation of the glands in the neighborhood; appendicitis or perityphlitis with abscess formation opening outwards; or an affection of the bone. The vomiting and acute symptoms all point towards appendix disease. We do not always find suppuration in appendix disease, in fact it may go on for months without pus formation; then again, appendix disease may go on for months without any very definite symptoms. Probably the present case is one of those chronic forms of appendix disease producing no very definite symptoms.

Dr. J. F. W. Ross does not think the history is that of appendix disease, at all events as it usually presents itself. Some cases of severe strain, causing localized peritonitis, occur. Many cases are deceptive in the signs presented. Rupture of a blood-vessel, muscle, etc., by severe strain, may give rise to suppuration, as in a case cited occurring in a lacrosse-player. The abscess in Dr. Machell's case is unusually low down for the appendix. The diagnosis seems to lie between rupture of the appendix from some severe strain and rupture of muscle, blood-vessel, etc.

Dr. Powell referred to a case of appendix disease with suppuration; no fluctuation detected in the iliac fossa, but a sinus formed which eventually opened at the umbilicus.

Dr. Macdonald thought Dr. Machell's case closely resembled one which had come under his care, in which the deeper glands were found to be involved. The suppuration was slow to occur.

Dr. Machell, in reply, stated that the source of the suppuration would not be easy to detect even after opening the abdomen. The history of the case does not point to glandular trouble. The position of the tumor is not lower than Dr. Machell has seen it in appendix disease.

Dr. J. F. W. Ross exhibited a

VERMIFORM APPENDIX REMOVED DURING  
OVARICTOMY.

There were dense adhesions and ascitic fluid present in the abdomen; the ovarian cyst, for which the operation was undertaken, was multilocular and suppurating. The vermiform appendix was brought up into the wound, and it bled so profusely and persistently that it was deemed advisable to pass a ligature around it and to remove it. The peritoneal surfaces were brought together, as mucous surfaces will not unite.

Dr. Ross also exhibited a specimen of

## INTESTINAL ANASTOMOSIS IN A DOG.

An operation had been performed in which six inches of intestine were first removed, and then an operation for the establishment of intestinal anastomosis performed. The dog died after three weeks, and the specimen exhibited shows the establishment of the anastomosis.

Dr. Macdonald reported a case of

CYSTIC SARCOCELE—SECONDARY GROWTH IN  
THE LIVER.

A man came to Dr. Macdonald eight years ago (the patient was twenty-five years old at the time); there was no history of syphilis, and he had a good family record. About a year before coming to Dr. Macdonald, he had received an injury to the testicle while riding. Pain resulted, which continued for a year and then a swelling appeared; there was fluctuation in one or two points in the testicle and in the cord. Dr. Macdonald removed the testicle and a good recovery followed. Subsequently he strained his back whilst lifting a heavy weight; this was followed by fever, thought at the time to be malarial; others thought he had spinal disease, but the case was obscure. During the middle of last summer Dr. Macdonald was called to see him, and detected a tumor on the left lobe of the liver, hard, and to a certain extent movable. Dr. Macdonald made an incision and found a tumor involving the left lobe and the under surface of the liver, removal was impossible. An unfavorable prognosis was given, and the man died. A *post mortem* examination could not be obtained.

April 30th, 1891.

The Vice-President, Dr. A. A. Macdonald, in the chair.

Dr. J. E. Graham showed a patient suffering from

RIGHT FACIAL PARALYSIS, WITH PARALYSIS OF  
THE RIGHT ARM AND LEG.

The following history was given: Miss B., æt. 23, one night three weeks ago went to bed well, and on the following morning she found that the right side of the face was paralysed, as were also the right arm and leg. This kept getting gradually worse for a week, and she then consulted a doctor, who referred her to Dr. Graham. It was noted that the patient had not the ordinary paralysis of the face of hemiplegia, because in her case the orbicularis palpebrarum is paralysed and she cannot wrinkle the brow on the affected side. She also has complete hemianæsthesia of the right side of the face; the anæsthetic area extends beyond the distribution of the fifth nerve, and includes the back and upper part of the head. There is absence of smell and taste on the right side; partial paralysis of the right arm and leg. Increased knee-jerk on both sides, but perhaps more marked on the left. There is complete anæsthesia of the right side. The sensations of heat and cold have not yet been tested. The Faradic current produced little or no effect on the paralysed side of face. With the galvanic current the qualitative reactions on the affected side were abnormal—acc. > ccc. The reactions normal in the right arm and leg. The uvula does not appear to be affected. There is right-sided deafness, without any organic ear disease. Tactile sensation is lost in the hand; there is no dysæsthesia and no optic neuritis. For the first few days after the onset of symptoms the temperature was slightly elevated. The case is somewhat obscure. 1. It is not an ordinary lesion of the internal capsule of the opposite side, because if it were so the orbicularis palpebrarum and the muscles of the forehead would not be paralysed, nor would there be anæsthesia. 2. A lesion in the anterior and upper part of the pons on the left side, if sufficiently extensive, might account for the anæsthesia and paralysis of the face and side, but would not account for the paralysis of the orbicularis palpebrarum, and of the occipitofrontalis muscle. 3. The only explanation seems to be that of a lesion in the facial nerve as it passes through the aqueduct of Fallopius, and the neuritis passing back so as to involve



the portia mollis in the internal auditory meatus. This might account for the loss of taste also. Thus we may look upon the paralysis of the facial as due to an organic lesion, and probably the other paralyzes are due to some functional (hysterical) cause.

Dr. Reeve had seen and examined the patient; he was surprised to find manifestations of such an extensive central lesion and the apparent implications of centres widely separated; he was inclined to conclude that it could not all be organic trouble. The field of vision for white and colors was reduced in both eyes with partial anæsthesia of the conjunctiva and the cornea. She had facial paralysis and fifth nerve paralysis; the temporal muscle seemed partially affected; there was no optic neuritis. The eye symptoms seemed in part to point to a condition of crossed amblyopia. The fact that there was no history of convulsions or unconsciousness militated against lesion in the pons. Paralysis of the portia dura might occur in the nerve trunk as readily as in the centre. When Dr. Reeve saw the patient a second time he thought the diagnosis was cleared a little. The suspicious points then elicited were: 1. She complained of pain right in the centre of the mastoid process, where there is no branch of the fifth nerve. If it had been just behind the insertion of the concha, it might have been due to irritation of the fifth, a condition not uncommon. 2. On asking her about the hemiplegia, she stated that she had not observed it until the medical man called her attention to it. 3. It was now discovered by the use of lenses that the sight of the right eye was as good as the left, and that of the left was normal, though the patient now complained that it was defective. Whilst we may therefore consider the hemiplegia to be functional, it is very unlikely that the facial paralysis is other than organic.

Dr. Graham said that Gowers states that we never get hysterical paralysis of the orbicularis palpebrarum.

Dr. Graham then read a paper on

#### A CASE OF CEREBRAL ABSCESS,

which appears on page 227 of THE CANADIAN PRACTITIONER.

In the discussion which followed, Dr. MacDonald referred to the difficulty of obtaining a

correct history in this case; the man was unconscious on admission to the hospital. The vital point was the choice of the place at which to open the skull. Looking back now, it appears evident that a mistake was made in opening the skull on the right side. The absence of shock after the operation was noteworthy, although chloroform had not been administered.

Dr. Reeve, in answer to a question, stated that optic neuritis was a later development and would not be expected to be present in a recent case such as the one under consideration. Showing the insidious and latent character of some of these cases he cited a case which he had reported some years ago of cerebral abscess the size of a small orange, occurring in the temporo-sphenoidal lobe in a lad. Up to three weeks before death there had been absolutely no signs of brain trouble. The abscess was apparently secondary to a long-standing otitis. On *post mortem* examination the middle cranial fossa was found healthy; there was no caries, the dura mater was healthy, and there was no direct communication apparent between the ear and the abscess in the brain. In this case there had been no sensory or motor disturbance, and for only a few days before death were there any symptoms pointing to serious brain trouble. There was optic neuritis and a fetid discharge from the ear, with caries in the tympanum. This case presented some features of interest bearing on the pathology. There was a capsule one-quarter of an inch thick in which were large blood-vessels, and the contents not ordinary pus, but greenish mucoid material intensely fetid; this was probably a chronic abscess of long-standing. Immediately outside the capsule was an area one-third of an inch thick of softened brain substance, and outside this again the brain matter immediately surrounding was oedematous. The quotation which Dr. Graham had made from Fagge requires to be modified somewhat. A thin capsule can form in two weeks and a very dense one in six weeks. A case has been recorded of abscess from traumatism in which a capsule had formed so dense that on passing a knife the capsule was not penetrated, but was pushed before it; this caused increased pressure within the cavity, which resulted in rupture of the inner wall of the abscess into the lateral ventricle, causing

instant death; the wall of the abscess was very thick and dense.

Dr. Millman spoke of two cases of cerebrial abscess which came under his observation in the London asylum for the insane. One of multiple patient suffering from acute mania; abscesses in a he was subject to periodical attacks of excitement, and it was surmised that each of these attacks indicated an abscess formation. There was no history of pyæmia. The second case was that occurring in a girl, who was admitted with acute mania, from which she completely recovered, and was subsequently engaged as a laundress in the institution. Sometime after this she suddenly became very ill and developed symptoms of serious brain trouble, from which she died. At the *post mortem* examination one side of the cerebellum was found to be almost entirely occupied by pus, and a portion also of the opposite hemisphere was affected. The vermiform process was not involved, and this probably accounted for the fact that she had had no impairment of co-ordinating power.

Dr. Machell asked Dr. Graham if, on a careful study of his case, he has learned anything to aid him in dealing with a precisely similar case in future.

Dr. Pepler asked if the paralysis on the right side was not a more important indication for opening the skull than was the spasm of the left side and the seat of the external injury.

Dr. Acheson remarked that we never have suppuration occurring without the presence of organisms, and in that light it seems that the abscess in Dr. Graham's case had nothing to do with the blow on the skull. The great majority of cerebral abscesses must be due to pyæmia, or from direct infection from some evident source.

Dr. Peters stated that when a blow on the head is inflicted at one point the brain is bruised at a point immediately opposite, *i.e.*, on the opposite side of the head: it is stated that if these cases be seen *post mortem* soon after the infliction of the injury, a path of bruised tissue can be detected across the brain substance, from the side upon which the injury was received to the damaged brain upon the opposite side. In studying the location of the external injury in Dr. Graham's case, it being high up on the right side, we would expect the damaged cerebral centres to be about the arm centres on the left side

of the brain. The fact that the cranial contents are injured in this way has been borne out by experiment, filling a skull with paraffin and inflicting a blow: the injury to the paraffin is on the opposite side to that on which the injury is received. As to the occurrence of suppuration, the great bulk of evidence goes to show that it is due to the injury; the bacteria have been carried by means of the blood and find a suitable nidus for their growth and development in the damaged brain tissue. The occurrence of the abscess in the temporo-sphenoidal lobe secondary to suppurative otitis, referred to by Dr. Reeve, is explained by the investigations of Schwalbe, who injected fluid under the scalp, and has been able by this means to demonstrate a continuous lymphatic connection from the scalp into the interior of the brain. The infection therefore spreads along the lymphatics. Instruments of a special kind are necessary for brain surgery. Horsley uses a trephine of large size,  $1\frac{1}{4}$  inches in diameter. He opens the skull with this, after turning down a large flap of the scalp and pericranium, and having previously marked the part of the skull he wishes to remove by indenting it with an awl driven by means of a mallet into the skull. The trephine hole having been made, a large area of the skull is sawn through the outer table by means of a Hey's saw; an area, say two inches by three inches, is thus mapped out around the trephine hole. A series of radiating saw cuts are similarly made from the trephine hole to the margin of the area mapped out. Then the portions of bone are removed by means of strong bone pliers along the lines of the saw cuts. This is a rational method of operating; by it a large area of dura mater is laid bare, and one has an opportunity of comparing healthy tissue with damaged; this is undoubtedly a great advantage.

Dr. Carveth narrated the history of a man admitted to the Toronto General Hospital some years ago suffering from an apparently insignificant scalp wound. He did well for a time, but subsequently developed brain symptoms, and on the fourteenth day was trephined; no pus was detected. On *post mortem* examination an abscess was found on the opposite side of the brain to that on which the scalp wound existed. A further lesson learned from such a case as this is not to treat lightly any case of scalp wound.

Dr. Gordon asked Dr. Graham how he accounted for the fact that a cerebral abscess may exist for months or years without presenting any marked symptoms of serious brain trouble.

Dr. Hamilton spoke with reference to the close relationship between suppurative ear diseases and the development of brain abscess.

Dr. A. F. McKenzie asked a question as to the administration of anæsthetics in these cases. We want to avoid shock, and are we right in discarding the anæsthetic?

Dr. Graham, in reply, thought the experience gained by a consideration of the case reported was valuable. There was some difference of opinion at the consultation as to the side upon which the skull should have been trephined. The case referred to by Dr. Carveth would have been a useful guide in the present instance; the cases, however, are hardly analagous, as the patient under Dr. Graham's care was unconscious on admission, and therefore an accurate history could not be elicited from him. Abscesses, the result of pyæmia, as referred to by Dr. Acheson, are usually multiple, and there is some previous deterioration of health. Dr. Graham considered Dr. Peter's explanation a good one, as to the occurrence of the abscess on the opposite side of the brain. He thinks that an abscess even with bacteria present may exist for months or years without developing symptoms, just as we have similar occurrences in other parts of the body. Dr. A. F. McKenzie's question is interesting and important, but difficult to answer. There would presumably be no special objection to the administration of chloroform in such a case.

## Hospital Reports.

### PULMONARY PHTHISIS, ACCOMPANIED BY ACUTE MILIARY TUBERCULOSIS.

UNDER THE CARE OF A. A. MACDONALD, M.D., IN TORONTO GENERAL HOSPITAL.

[Reported by T. S. Cullen, M.B.]

James Taylor, mason, æt. 23; history, March 7th.

*Family history good.*—Was never sick before. Last May took cold, and complained of sharp pain in infra-axillary region on left side.

Coughed a little; was feverish in afternoons, and perspired at night; gradually lost weight, but had no diarrhoea.

*Present condition.*—Christmas, 1890, emaciated and anæmic.

*Respiratory system.*—Inspect.: Depression in supra and infra-clavicular regions on both sides; diminished expansion over both lungs.

Palpation: Vocal fremitus increased on both sides.

Percussion, right lung: Dullness in supra-clavicular mammary, supra-mammary, and axillary regions. Hyper-resonance in infra-clavicular region.

Left lung: Dullness in supra and infra-clavicular regions, also in infra-axillary area.

*Auscultation.*—Right lung: Breathing tubular in supra and infra-clavicular regions. Broncho-vesicular in mammary, infra-mammary, and axillary regions. Moist rales in supra and infra-clavicular regions.

Left lung: Tubercular breathing in supra and infra-clavicular areas; a few moist rales over same regions.

*Examination of back of chest.*—Vocal fremitus increased on both sides.

Percussion: Dullness over whole of both lungs.

Auscultation, right side: Broncho-vesicular breathing, accompanied by a few moist rales, in supra-scapular region.

Left side: Bronchial breathing in supra-scapular area.

Sputum: Amount small; nummular mucopurulent, contains numerous tubercle bacilli.

*Circulatory system.*—An apical presystolic murmur, mitral obstructive. Pulse, 108, full and strong; temperature, 100°. a.m.; slight perspiration. Tongue large and flabby; appetite poor: bowels constipated: sleeps well.

On January 26th, .0015 cc. of Koch's lymph were injected: the reaction was not marked, and lymph was persisted in until .018 cc. were injected at once. From the first the weight diminished: on only one or two days did it go beyond that of the preceding day.

About the middle of March diarrhoea commenced; this was persistent, requiring frequent doses of pil plumbi c. opio. During the last week the temperature ranged from 98½° to 101°. Death occurred April 6th.



P.S.—About March 20th a cavity was diagnosed in left apex.

*Post mortem*.—April 20th, Dr. Caven: Nutrition poor; p.m., staining well marked, rigor mortis fair; muscle pale and very scanty.

Heart: Weight, 310; pulmonary valves fenestrated.

Lungs, left: Large cavity in apex, accompanied by dense pleuritic adhesions.

Right: Lung solid, greenish white, densely infiltrated; a few small cavities near apex. The pleuræ were so glued that it was impossible to separate them without dissection. At the base was a circumscribed pleurisy, the sac containing two ounces of fluid (serous).

Spleen: Weight, 36½; contained a few small tubercles.

Kidneys: Right, weight, 4½3; small miliary tubercles. Left, weight, 5½3; also contained tubercles.

Stomach: Revealed a state of chronic inflammation.

The small intestines: Contained numerous small ulcers running in the short axis of the bowels, the bases and margins of these being indurated; tubercular. When knuckles of intestines met, small miliary tubercles were found.

Some of the mesenteric glands were three-quarter inches in diameter.

Liver: Weighed 3½ pounds; showed fatty degeneration, and contained miliary tubercles.

*Post mortem diagnosis*.—Pulmonary phthisis, accompanied by acute miliary tuberculosis.

## Pathology.

### THE EXAMINATION OF THE BLOOD FOR LAVERAN'S MALARIAL GERM.

Laveran's directions for examining the blood of malarious patients are as follows: The blood should be taken at the height of a fever attack, and from a patient who has had no quinine for some time. The blood should be taken from a finger tip after a thorough cleansing of the skin to be pierced. The cleansing should be such as to prevent all chance of contamination of the blood as it oozes out. The drop so obtained is to be taken up on a clean cover glass, and a second cover placed upon it, so that a thin layer of blood may be obtained between two cover

glasses. This fresh preparation is then to be examined by daylight and with a dry lens of high power. In this way one will oftenest be able to see the flagella on the periphery of the round pigmented free corpuscles. If a dry preparation be desired, then the cover glasses must be separated from one another and the blood dried by passing the cover glass three times through a flame. The specimen can then be examined either unstained or stained. Laveran stains with a concentrated watery solution of methyl blue, before using which, he washes the cover in a mixture of equal parts of alcohol and ether. By this method the nuclei of the white blood corpuscles are stained dark blue, the free round bodies, or those attached to the red blood corpuscles, a pale blue, while the still growing corpuscles stain hardly at all. For specimens so prepared, Laveran recommends dry lenses also. J. C.

## Pamphlets Received.

*A Dermatological Bibliography*. Compiled by George Thomas Jackson, M.D., New York.

*Lovell's Historic Report of Census of Montreal*. Taken in January, 1891.

*Plain Talks on Medical Electricity and Batteries*. By Horatio R. Bigelow, M.D.

*Modern Antipyretics—their action in health and disease*. By Isaac Ott, M.D., Ex-Fellow in Biology, Johns Hopkins University. E. D. Vogel, publisher, Easton, Pa.

## Personal.

It is announced that Dr. Sloan, of Blyth, is about to remove to Toronto. On May 4th he was presented with a gold-headed cane and an easy chair by a number of his friends in Blyth.

DR. H. SCOTT, of St. Thomas, has removed to Ingersoll, where he will practice in future.

DR. STEPHEN LETT, of Guelph, attended the meeting of the American Medical Association at Washington, and read a paper on "The Opium Habit."

Dr. DANIEL CLARK, Superintendent of the Toronto Asylum for Insane and Professor of Psychology in the Medical Faculty of the University of Toronto, was elected President of the Association of Medical Superintendents of Insane Asylums of America at the meeting recently held at Washington, April 28th.

Dr. GEORGE ROSS, Subdean of McGill Medical College, has been in poor health for some months. He has required assistance in his school work, and in his professional work he now confines himself to consultation practice.

Dr. B. L. RIORDAN, of Toronto, has organized an ambulance corps composed of employees of the Grand Trunk Railway, and is giving a series of lectures and demonstrations.

The Rev. Dr. Hooper, who has been superintendent of the Kingston General Hospital for the last four years, has resigned, and will shortly move to Toronto.

PROFESSOR RAMSAY WRIGHT, Professor of Biology in the University of Toronto, after being engaged at work in Koch's laboratory for

some months, has gone to Paris, where he will spend a few weeks in Pasteur's Institute. He will sail for Canada, June 4th.

## Obituary.

Dr. GEORGE SOUTHWICK, of St Thomas, died suddenly, May 6th. He received his license to practice from the old medical board in 1835, and was about 86 years of age. In his younger days he took much interest in public affairs, and for a time represented the county of Elgin in the old Parliament of Canada.

## Births, Marriages, and Deaths.

### BIRTHS.

FREEL.—At Brougham, on Monday, April 27th, the wife of Dr. J. E. Freel, of a son.

MACHELL.—At Toronto, May 6th, the wife of Dr. H. T. Machell, of a son.

### MARRIAGES.

TYRRELL—GRANT.—On Wednesday, Apr. 29, Rebecca (Appa), daughter of the late Wm. Grant, of Inverness, Scotland, latterly of Kingston, Ont., to J. D. Tyrrell, M.D., of Toronto.

1891

## Medical Council Election

FOR THE BURLINGTON AND HOME DIVISION.

*Election to take place on the 27th May, 1891.*

Extracts from the By-law for conducting the elections of the Medical Council of Ontario:

"That any member of the College of Physicians and Surgeons of Ontario presenting himself for election as a representative to the Medical Council for the Territorial Division of Burlington and Home must receive the nomination of at least twenty registered practitioners resident in such division, and that such nomination paper must be in the hands of the Returning Officer for the Division not later than two o'clock on the afternoon of Wednesday, May 13, 1891.

"In the event of only one candidate receiving such nomination, it shall then be the duty of the Returning Officer to declare such candidate duly elected.

"That the Registrar shall send to every registered member of the College entitled to receive the same a voting paper (in accordance with residence given on register) by Wednesday, the 20th May, 1891.

"Any member of this College not having received a voting paper by Wednesday, the 20th May, 1891, when more than one candidate has been properly nominated for the Division of Burlington and Home, will send by post to the Registrar his or her name and address, and a voting paper will be forwarded at once for the Division."

Certified a true copy of extracts from By-law passed by the Medical Council of Ontario.

By Order,

R. A. PYNE, Registrar.

College of Physicians and Surgeons of Ontario, S. E. Corner Bay and Richmond Streets, Toronto, Ont.

## ONTARIO MEDICAL ASSOCIATION.

ELEVENTH

## ANNUAL MEETING

*JUNE 3rd and 4th, 1891.*

The ELEVENTH ANNUAL MEETING of the above Association will be held in the City of Toronto, on WEDNESDAY and THURSDAY, June 3rd and 4th.

All duly qualified practitioners attending this meeting will obtain Return Tickets at one and one-third fare.

Gentlemen desirous of reading papers or presenting cases before the Association are requested to notify the Secretary by the 1st of May at the latest, of the title of such paper or case, for submission to the committee on papers and business.

W. H. MOORHOUSE, President, London.

D. J. GIBB WISHART, Gen. Secretary,  
47 Grosvenor Street, Toronto.

THE

# CANADIAN PRACTITIONER

FORMERLY "THE CANADIAN JOURNAL OF MEDICAL SCIENCE."

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TORONTO, JUNE 1, 1891.

## Original Communications.

### PSOROSPERMOSE FOLLICULAIRE VÉGÉTANTE (DARIER).\*

BY A. R. ROBINSON, M.B., ETC.

Professor of Dermatology in the New York Polyclinic, Attending  
Physician to the New York Cancer Hospital, etc.

Under the name of psorospermo folliculaire végétante, M. M. Darier and Thibault, in 1889, described a peculiar condition of the skin which had probably been previously confounded by dermatological writers with other cutaneous affections, and which was already separately described by Dr. J. C. White, of Boston, under the name of keratosis follicularis. According to Darier, there exists in man a group of cutaneous diseases which merit the name of psorospermoses, being due to the presence in the epidermis of parasites of the order sporozaires, of the group psorosperms or coccidia. In one of these diseases the coccidia of a particular species invade the follicular orifices of a greater portion of the cutaneous surface, where they appear in the form of round bodies, generally encysted and contained in the epithelial cells, or as refracting granules, the accumulation of which forms a plug which projects from the orifice of the follicle. "The presence of these bodies enables one to make a diagnosis of the disease, as they are not met with in any analogous clinical affection. The neck of the follicles invaded become second-

arily the seat of papillomatous vegetations, which can develop to a great degree and form real tumors.\* The affection, from an etiological point of view, should be placed with Paget's disease of the nipple, and probably with molluscum contagiosum."

The disease called molluscum contagiosum, according to Neisser of Breslau, is caused by psorosperms, but this view has not yet secured anything like general acceptance, many pathologists, including myself, regarding the molluscum bodies as chemically changed epithelial cells and not organisms, although believing the disease to be a communicable one and parasitic in nature. In epithelioma, especially that clinical form known as Paget's disease of the nipple, which was generally considered to commence as an eczematous process, Wickham has endeavored to show that psorosperms are very abundant, and argues with much force and plausibility that they are the essential factors of the disease, and the cause of the anatomical changes which occur.

Returning to the subject of my paper, Darier showed a case of psorospermiosis follicularis at a meeting of the International Congress of Dermatology and Syphilis held in Paris in 1889, occurring in a man forty-two years of age, in whom the disease had lasted seven or eight years, commencing insidiously and later assuming an aggravated form, especially during the last two years. The following is an account of the eruption as taken from the transactions of the Congress:

\*An address delivered before the Pathological Society of Toronto, December 18th, 1890.



"The isolated lesions had the appearance of papules surmounted by a crust: but if the latter be removed it is seen to be not a crust, but a small, obtuse horn plunged into a dilated follicle orifice, and having a softer extremity, with a sebaceous aspect. The margins of the orifice are somewhat elevated and papular in character. In the axillary and especially inguinal regions the lesions are larger, conglomerated, and forming by their union true tumors, which become excoriated on their surface. Where the eruption was confluent, as on the sternum, scalp, axillæ, and back, there were brownish crusts, more or less fatty to the touch, and formed by a series of irregular hard formations rather adherent to the skin."

In an article in the *Annales de Dermatologie et de Syphiligraphie*, he summarizes the clinical aspects of the cases studied as follows:—"The lesions are almost always spread over the greater part of the cutaneous surface, but have points of election where they attain a maximum of development, or at least of confluence; they are, the scalp, face, presternal region, flanks, and especially the inguinal regions. In the first stage the elementary lesion is a small papule surmounted by a dark brownish or grayish crust, which is dry and hard to the touch, adheres firmly to the integument, and is a true horn, imbedded in an infundibuliform depression by a conical or cylindrical extremity, dirty-white in color, of semi-solid consistence, and somewhat fatty to the touch. The depression of the skin which receives this horn is slightly entormé at the margins, a little elevated, and manifestly corresponds to a dilated orifice of a hair-sebaceous follicle. Where the lesions are confluent there is a brownish or earthy-like layer in the skin more or less fatty to the touch; there is a series of irregular compact elevations giving a rasp-like feeling to the hand. Removal of this layer shows the skin irregular and rough, riddled with small, funnel-shaped oriñces; the epidermis is not destroyed, and there is no oozing of blood. In a more advanced stage the lesions are larger; in certain parts the elevated margin is deprived of epidermis and appears ulcerated, whilst sebaceous matter, either pure or mixed with pus, can be pressed out of the follicle orifice."

The disease commences as small papules the

size of a pin-head and almost of the color of normal skin; as they increase in size they become somewhat hyperæmic, and in an advanced stage they are hemispherical or flattish in form. The summit of some is excoriated by scratching, and carry a hemorrhagic crust. When the lesions become confluent they form elevated patches covered with flattened, yellowish or brownish corneous or fatty concretions; or the corneous mass may form marked elevated collections, or even papillomatous growths.

Microscopical examination of the lesions in the cases observed by Darier showed the accumulation of special matter in the neck of the follicle, changes in the epidermis, especially in the rete, and some circulatory disturbance in the corium. The secreting portion of the glands was unaffected. Sections showed that the neck of the hair and sebaceous gland follicle was the principal seat of the lesions, but not exclusively. "The neck of the follicle is dilated, cone-shaped, and filled with a coherent mass of corneous-like material, which extends from the base of the cone to above the general surface, and corresponds to the adherent crust already described. The rete is hypertrophied, as shown by the presence of abnormal projections of this layer into the corium, both on the general surface and along the hair follicle. There is also a papillomatous growth of the corium towards the epidermis. These changes Darier believes are due to a special organism appearing under the form of round bodies, nucleated and surrounded by a thick membrane, and situated in the interior of the epithelial cells, displacing or pushing aside its nucleus. They are present in great numbers in the base of the cup, whilst the horny plug is composed in great part of these same bodies, which here have become transformed into refracting granules. They are also present in all portions of the rete layer. In old lesions the projection of the rete into the corium and the papilloma-like new formation of connective tissue was very marked, and resembled closely the condition present in epithelioma."

Dr. J. C. White, of Boston, has described under the condition *keratosis follicularis* two cases with very similar clinical conditions to those present in Darier's cases. Sections were studied by Dr. Bowen from these cases and he

found similar histological changes to those above described. There was dilatation of the mouths of the follicles, the enlarged space was filled with a horny mass, there were prolongations of the rete into the corium, the glandular structures were not implicated in the process, and the so-called psorosperms were present. These peculiar bodies escaped Dr. Bowen's special notice until after Darier's description, just as they escaped, much to my regret, my notice in a case observed by me about eight years ago, although they were plentiful in some of the sections. Dr. Bowen was not satisfied, however, that the psorosperms were ever intra-epithelial in his sections, and furthermore he found that the horny plugs were not made up, as Darier states, of simply refracting granules but of corneous cells, the result of a hyperkeratosis. "Microscopically, sections cut parallel with the long axis of the horny plug showed the round psorosperm-like cells at the base of the concretion, and they could be traced upward some distance, gradually becoming flattened and fused together, until in the firm, hard, upper portion the mass is composed almost entirely of lamellæ having much the appearance of broad bands of fibrous tissue, arranged in bundles running vertically and obliquely and containing small elongated nuclei." As the bodies in question are said, when situated in the granular layer, to contain granules characteristic of this layer of the epidermis, and show the same reaction to staining agents when in the stratum corneum as do the tissue cells of the part, Dr. Bowen thinks they must undergo at least a partial keratosis, a change not to be expected of an animal parasite.

In the *Journal of Cutaneous and Venereal Diseases* for 1886, Dr. Morrow, of New York, described a rare case of cutaneous disease under the title of keratosis follicularis, and this case has been referred to by Dr. White in his article as presenting many features in common with his cases. As I made a most careful microscopical examination of some of the lesions in this case and failed to find any psorosperms or signs of special activity of the rete or of inflammation of the corium, I will briefly refer to the clinical characters that were present. The eruption occupied the entire follicular apparatus of the skin, with the exception

of the face, palms, and soles. The ducts of the sebaceous glands projected above the general surface and filled with a comedo-like substance, which in some cases formed projecting plugs from one-quarter to half an inch in length. This material, when pressed out, was hard and dry in the outer portion and softer within the follicle. Removal of the plug left the duct dilated and projecting. None of the follicles showed evidence of irritative action or signs of inflammation, differing in this respect very greatly from the cases described by Darier. Microscopical examination showed a hyperkeratosis of the follicular orifice and a comedo-like collection of material in the central part of the lesions.

I have had one case of this condition under treatment or observation during the last seven years. He was first a patient of Dr. Ludwig Weiss, of New York, and has been seen by all the New York dermatologists, who regarded the case as an example of lichen ruber of Hebra when shown before the Dermatological Society about seven years ago. That was before Darier described his cases. Last year Dr. Lustgarten saw him and recognized the affection as analogous to those described by Darier and White, and hence if there is such an entity as psorospermiosis follicularis cutis, this case should be regarded as Dr. Lustgarten's case of that disease. With this statement I will now give a short history of the eruption as observed during a severe stage of the disease. M. L., male, æt. 49 years, was in good health until he entered the United States army during the civil war. The eruption appeared after he had been about one year in the service, the lesions forming upon the forehead and sternum and consisting of small dark-red papules. Since that time the eruption has never disappeared, although varying greatly as regards objective and subjective symptoms at different periods. The eruption gradually extended, so that at present it occupies the greater portion of the body. As already stated, the eruption commenced as dark-red, elevated papules, which after a time, owing to increase in the number of lesions within a given area, gave a rough, rasp-like feel to the fingers, and presented many of the characters of lichen ruber of Hebra, and was diagnosed as such by all the dermatologists who observed the case. Whether any of Hebra's cases would be diag-

nosed to-day as examples of psorospermis follicularis cutis or not, must remain a question.

At present the patient has an outbreak of the eruption, that is the eruption is in its severest form, and the present description refers to this stage.

Head : Partial alopecia of the scalp, thinning of the hair, most marked upon the upper and frontal parts. The entire scalp is thickened, less movable than normal, and covered with crusts of varying thickness, dirty yellowish in color, and fatty to the feel. Upon removal of the crusts the dilated orifice of the excretory duct of the sebaceous glands is very distinct; but no plugs are present, that is, there is a condition very similar to that of the crusty form of a seborrhoeal eczema. Left ear : Thickened, inflamed, and at junction with the head there is a papillomatous condition like in eczema verrucosum, whilst at the free margin the surface is red and moist, like an eczema rubrum. The skin of the external auditory canal is thickened and covered with a thin layer of fatty scales, as in seborrhoeal eczema. The right ear is normal except at junction with head, where the condition is similar to that on left ear. Face : The skin is thickened and muddy-like in appearance from hypertrophy of the corneous layer, with marked dilated sebaceous duct orifices over the entire surface, but most marked upon the nose. Upon the back of the neck the condition is similar to that upon the face, except that the follicular orifices are not so distinct. A few lesions pin-point sized or somewhat larger, reddish in color, and having a hair in the centre; others pinhead-sized, and reddish and slightly flattened, without a hair, are present. On both shoulders there is a large number of isolated or grouped pinhead to pea-sized yellowish-brown or dirty brownish-red elevated lesions, covered with a few scales. The orifice of a sebaceous duct can be seen in the central part of many, but no plugs like those described as existing in Darier's cases were present. If the scales or crusts were removed the skin was found to be slightly red, and sometimes oozing of blood followed their removal. The scales could be removed in a lamellar form. The pea-sized lesions showed the same characters as the smaller ones, except there was more scaling, and upon removal a shining epidermis was left. In some places grouping of the lesions

was marked and coalescence was observed in some places. Where lesions have existed and disappeared, the part is pigmented and shows slight atrophy. Upon the back, from scapular to lower part of the lumbar region, the eruption is very general, symmetrical in distribution, and somewhat pyramidal in form. The lesions number perhaps 300 to 400 in number, and at the lower part of this field are isolated, and of somewhat similar character as that of the large lesions already described, *i.e.*, are dark-red, elevated, sharply limited, and covered with dirty-white or brownish scales, not easily detached. There are no follicular orifices to be seen and no plugs. In the central part of this area the lesions are not so elevated, are of a brighter red color, and not scaly. They are firm and the skin is infiltrated. Where lesions had existed pigmentation was left behind. In some places lesions much like those in some chronic diffuse patches of lichen planus were present, and could not be diagnosed from this eruption in some areas as large as two inches in diameter.

Front of thorax : Upper part to second rib, like eruption on shoulders : below second rib to a line below nipples part-covered with hair. On right half of this area there is much pigmentation and a few lesions the size of a large pinhead. Over the sternum and beyond for some distance there was a moist red skin covered with crusts composed of serum and fatty degenerated epithelial cells, the whole aspect being similar to that of moist seborrhoeal eczema in the central portion of an ordinary papular eczema toward the periphery. The itching is intense in this region. The whole of the right side of thorax and abdomen between the line of the nipple and that of the axilla is studded with lesions of all sizes, from pin-point to pea-sized, but the majority are large pinhead sized, and over large areas they have coalesced. They have similar characters to those upon the shoulders, *i.e.*, elevated, sharply limited, covered with scales or crusts, but nothing like plugs are present, nor are the follicular orifices distinct. In the umbilical region the condition is exactly similar to a moist eczema seborrhoicum of this part. The lower part of the abdomen is similar to the parts just described. The penis and scrotum are free; the legs are also free.

Arms : Inner side from axilla to two inches



above the elbow from fifty to one hundred pin-head-sized or larger lesions of similar character to those of shoulders. Forearm: Left side, extensor surface, elbow to wrist, an infiltrated patch with isolated lesions at centre; the rest infiltrated and scaly, like an eczema in children more than a lichen planus. At the lower part near wrist there is serous exudation with yellowish crusts like in impetiginous eczema—a suppurative catarrhal dermatitis and red surface beneath. The inner surface of the forearms is free except upon the lower half; there are a few isolated lesions. Right forearm same as left, but the extensor surface is now free. The palms were never affected. Back of hands and fingers: Isolated, closely seated, small pinhead-sized, slightly red lesions, with hair in centre, in many making a picture very similar to that in pityriasis pilaris Devergie. Nails: Thick, broken, deformed, like in eczema, but there is no eczematous condition of fingers. Nails of feet similar to those of the hands.

It will be seen from the above description that this case evidently belongs to the same class as those describ-

ed by Darier and White as far as objective characters are concerned, although there were no plugs, properly speaking, in this case, but rather collections of sebaceous matter and epithelial cells upon the general surface.

Microscopical examination: I removed seven years ago several pieces from the patient and found the following changes: A recent papula showed the corneous layer to be greatly hypertrophied from an increase in the number and size of the corneous elements. There was also an aberration from the normal process of cornification, as many of the cells contained nuclei. The nuclei are particularly abundant at the orifices of the sweat glands and hair follicles.

All the corneous cells are larger and more polygonal in shape than normal, especially in the lower strata. The rete is hypertrophied in some places and normal in others. There is growth downward of the interpapillary portion also. The granular layer and the stratum lucidum are less distinct than usual. The papillae are larger from the interpapillary growth of the rete; the blood-vessels are dilated, and there is some exudation and emigration present. The sweat glands are normal except the duct in the corneous layer, the walls of which are formed with large cells, some of which have vesicular nuclei. The hair follicles are unaffected except at the

orifice, where there is a large collection of corneous cells. The muscle bundles are much hypertrophied.

In old papules there is a continuation of the same process, and after a time retrograde changes leading to atrophy of the part; or there is a return to a normal condition by cessation of the abnormal keratosis process. The corneous layer is much thicker than in a recent papule, but the character of the corneous elements as regards size, shape, etc., are the same.

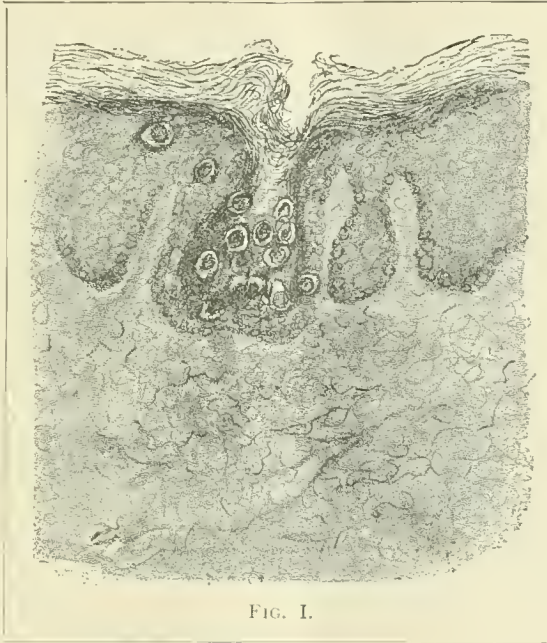


FIG. I.

The rete is hypertrophied and its upper surface uneven. The cells are not larger than normal, and in many places are no smaller from pressure by the corneous layer. The cutis papillae are but slightly enlarged, the papillary blood-vessels somewhat dilated, and there are a few round cells, emigrated, outside the blood-vessels. The muscles are hypertrophied. In the centre of old papules a retrograde process often occurs, consisting in a degeneration of the rete and destruction of a portion of the underlying corium. The process, therefore, is a para-typical keratosis.

In fig. 1 is shown a drawing from a section of the earliest papule I could find upon the body. It was very small, pinhead in size, slightly ele-

vated, firm, whitish in appearance, and without a scale or crust. When excised I was in doubt as to whether it represented a lesion of the disease or not. The drawing is intended to show the epidermis and the peculiar bodies present in it. The corneous layer is slightly thickened, the rete hypertrophied, and at the mouth of the follicle is a collection of the so-called psorosperm bodies. Similar bodies were found in sections from every lesion, although some sections would not contain them although the epidermis changes were present. I need not enter into any detailed description of them at present, as they are similar to those described by Darier, and also because I intend discussing their nature in a future paper, as I have a considerable amount of recent material in my possession which, I think, will enable me to obtain an insight into their nature and significance as concerns this particular cutaneous condition. I will only state that no psorosperms were ever found near the general surface, so that the argument of Dr. Bowen is supported by my specimens. I might further state that although I saw these bodies seven years ago, I regarded them at that time as merely peculiarly changed epithelial cells without any special significance.

In considering the significance of these bodies, the following questions require our consideration and study: (1) Are they found in every well-marked case of the cutaneous condition above described? (2) Are they present in every lesion in the earliest stage of formation? (3) Are they present in other dermatoses? (4) Are they organisms? (5) Are they the cause of the cutaneous lesions?

(1) Are they found in every well-marked case of the cutaneous condition described by Darier? With the exception of Morrow's case, they have been present in all the cases. They were not present in the case of Dr. Morrow, for I examined lately many sections from this patient and none were to be found; but an analysis of the symptoms shows, I think that apart from the presence of epithelial plugs, the case bore no resemblance to the conditions existing in the other described cases. We may therefore consider that, in all the cases so far reported, these peculiar bodies have been present.

(2) Are they present in the earliest stage of all the lesions? This question cannot be an-

swered at present as I am not aware that the point has been studied, as the drawings from Darier's cases and White's are from sections of lesions of some duration, as shown by the presence of plugs and the rete proliferation. I have examined one lesion in the earliest stage of recognition, before it showed signs of crust or plug formation or changes in the corium, and found large numbers of these bodies as shown in fig. 1. It is fair, therefore, to presume that they are present in all lesions at the earliest stage until the contrary is shown.

(3) Are they present in other dermatoses? I have examined sections from cases of eczema squamosum, eczema verucosum, psoriasis, lichen planus, pityriasis pilaris Divèrgie, nævus sinus lateris, rodent ulcer, squamous epithelioma, and molluscum contagiosum. In none except rodent ulcer and squamous epithelioma were these bodies to be found. In lichen planus an occasional cell, not to be distinguished perhaps from a psorosperm, was found, but they were probably only vacuolated epithelial cells of the rete. I will not enter into a description of the bodies present in epithelioma, as Dr. MacCallum will discuss that subject. I wish only to draw attention to the great difference in the clinical course of psorospermiosis follicularis cutis and epithelioma, and to state my conviction that, if both depend upon psorosperms these bodies cannot be identical ones but only related to each other.

(4) Are they organisms? As already stated, I will postpone a discussion of this subject for a subsequent paper upon the subject, merely stating at present that the existence of such a group of peculiar bodies as exists in fig. 1. cannot be traced to the invasion of the epidermis by leucocytes, as they evidently existed before circulatory changes began in the corium.

(5) Are they the cause of the cutaneous lesions? If it is proven that these bodies are organisms, that they are present in the very earliest stage of the cutaneous disease, that they are present in every lesion at its commencement and that they are not present in other dermatoses, that their presence by analogy drawn from the known action of psorosperms upon other tissues, either in man or the lower animals, would explain satisfactorily the anatomical changes occurring in the part, then I

think we must conclude that these bodies are the cause of the disease, and that the condition described by Darier as psorospermiosis follicularis vegetantē represents an entity—a special cutaneous disease.

In the case of the patient whose eruption I have described, there is one peculiarity as regards the spread of the lesions that apparently at least is opposed to the disease depending upon psorosperms. He informs me, and I have been able to substantiate his statements, that he has at indefinite intervals acute outbreaks of the eruption, that is, the disease is kept up by successive acute outbreaks of new lesions, which gradually subside and finally disappear, to be followed by formations of new lesions whilst the old ones are undergoing retrograde changes, or after many have entirely disappeared. During these acute attacks he feels very ill for several days, "every part of his body hurts him": he is confined to his bed or room; then hundreds of lesions appear, after which there is an interval of comparative relief. This has been supposed by one writer to depend probably in this case upon malaria, but I find no ground for such a diagnosis; neither do I think the general conditions can depend upon the presence of psorosperms, or it would be a more continuous one. It is the one point in the history of the case that seems incompatible with the view that the lesions depend upon such bodies as psorosperms; but as this condition was not observed in the other cases described, it is possible that the general condition has no relation to the cutaneous disorder.

The whole subject is one of great interest, and well worthy of further study; and its importance is, I trust, a sufficient excuse for my bringing the subject before the members of the Pathological Society.

### THE CONTAGIOUSNESS OF PHTHISIS: ITS PRACTICAL ASPECTS.

BY ALEXANDER M'PHEDRAN, M.B.,

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Radical changes in our views on any question of either fact or theory require time to fructify. In nothing is the truth of this shown more clearly than in connection with phthisis. Koch's discovery of the bacillus tuberculosis as the

cause of phthisis required several years to obtain general acceptance, and after it was generally accepted few were prepared to acknowledge the contagiousness of the disease. About four years ago the question of contagion was warmly discussed at the meeting of the Ontario Medical Association, the theory finding acceptance with only a small proportion of those present, even although the majority acquiesced in the view that the bacillus is the active cause in the production of phthisis, and it was pointed out that, that doctrine once admitted, it followed almost as a corollary that the disease could be produced only by transmission. In the meantime professional opinions have so changed that now probably few can be found who doubt the transmission, of some cases at least, by contagion. Unfortunately our practice often lags behind our theories, so that there seems to be little yet done by way of application of the theory of contagiousness of tuberculosis.

In common with others who have been using Koch's lymph, or tuberculin, in hospital practice, I have been consulted by many phthisical patients from various parts of the country as to the advisability of undergoing treatment with the lymph. In most of these there was a decided history of contagion, as, *e.g.*, a healthy, robust man becoming affected before the death of his wife from tuberculosis: one member of a family contracting the disease while away from home, and other members becoming affected after his return home, consumption being unknown in the family previous to this.

In all cases I made careful enquiry to ascertain what precautions had been taken to protect those exposed to the infection, and rarely found that any preventive means had been adopted. This is due, of course, to the failure on the part of the profession, as well as of the public, to realize the actual existence of a contagium, and that preventive measures can in the least control the spread of the disease. We have so long been taught that heredity is the chief factor in the causation of tuberculosis that it is difficult to eradicate this theory and implant another, much less acceptable to our feelings, as firmly in its place. Since the discovery of the bacillus nothing has occurred tending to enforce on public attention the fact of the contagiousness of tuberculosis equal to the introduction of



Koch's lymph, teaching, as it does, that the disease is always and wholly due to the bacillus; and even should it prove, as feared by many, wholly ineffectual in curing, or even mitigating the disease, it will nevertheless have conferred an incalculable boon on humanity if it leads to effectual methods being adopted for the protection of those exposed. No effort should be spared to curtail a disease that claims one-seventh of the race as its victims. The necessity for such effort is further emphasized by remembering that in every case the germs are transmitted from some preceding case in man or lower animal, and therefore that, at least theoretically, it should be possible to prevent the transmission of the bacillus from the sick to the well, and thus in time wholly eradicate the disease.

There are many circumstances that render precautions against the contagiousness of tuberculosis extremely difficult. Many of those affected are yet enjoying apparently excellent health, and actively pursuing their several avocations unaware of the existence of the disease. Others, aware of their condition, are yet loath to acknowledge that they are sources of danger to those about them. Then the disease is so protracted that the greatest patience will be required to continually guard against the spread of the contagion. Then there is the further difficulty of guarding against infection from the lower animals, especially cows, whose milk, if the animal is diseased, may contain bacilli, irrespective of the seat of deposit of tubercle, disease of the teats or udder not being necessary to affect the milk.

Fortunately the breath of patients affected with pulmonary tuberculosis does not contain bacilli; they are found only in the sputum. In disease of the intestinal and urinary tract the germ is present in the fecal matter and urine respectively. Cornet, in 1888, showed that the dust collected from the walls of rooms occupied by tuberculous patients contained bacilli, and produced virulent tuberculosis when inoculated on guinea-pigs. This was true in all cases in which the patients spat upon the floor, into handkerchiefs, or in any place where the sputum was allowed to dry and become diffused into the air as dust. In all cases in which a spit-cup was used and properly cared for, the dust of the room proved to be free from bacilli.

That houses become dangerous media of infection is shown by such instances as the following: A family of seven healthy persons moved into a house previously occupied by a family suffering from tuberculosis, from which a child died shortly prior to their vacating the house. In the course of two years after the healthy family entered the house five were attacked with tuberculosis; two had died and three became seriously ill.\*

† Dr. Stone, of Boston, found bacilli in dried sputum after three years exposure in cups placed on a shelf. There was no change in their form or condition. The sputum, on inoculation into guinea-pigs, was found to have lost none of its virulence.

Physicians will therefore see the pressing importance of complete destruction of all sputum which contains bacilli. All the benefit from the work of investigators as to the cause of tuberculosis and the dangerous nature of sputum will be lost if physicians in active practice do not set themselves to work to do their part towards eradicating this great public danger.

The general rules that should guide us in the prophylaxis of tuberculosis might be included under the following heads:

- (1) The complete destruction of the tubercle bacillus wherever found outside the human body.
- (2) Avoidance of unnecessary risk of the introduction of the bacillus into the unaffected.
- (3) Improvement of the health of the individual, especially of the susceptible.

At present we have to do with but the first head, under which is included the thorough destruction of sputum of tubercular persons, as being by far the most frequent source for the dissemination of the bacillus. It includes, as well, the destruction of all excretions liable to contain bacilli, as, *e.g.*, the fecal discharges from patients affected with intestinal tuberculosis, and care as to extreme cleanliness of person and linen, lest small particles adhere and, drying, become diffused into the air. Also the destruction of all tubercular cattle to prevent contagion by meat and milk, the latter being especially dangerous, and doubtless a frequent means of infection, particularly in children. Unquestionably the best means of disposing of tubercular sputum is to have paper spit-cups used; these

\**British Medical Journal*, vol. ii, 1890, p. 477.

†*American Journal Medical Science*, 1891, p. 275.

should be burnt from time to time as necessary, care being taken that they shall on no account stand long enough for the sputum to become dry. For those who cannot afford to purchase such cups, several folds of ordinary paper can be moulded into a cup or small vessel, and will then serve quite as good a purpose. Everything being thus burnt, there is no possibility of contagion being conveyed to others, if the care is taken that no sputum falls outside the cup, to dry and become dispersed through the air, or to adhere to the hands of whosoever burns the paper and cleanses its receptacle. If a cup be used without the paper, it should contain a little water to prevent drying of the sputum; the fire is the best disposition of the sputum in this case also. Such disinfectants as carbolic acid and perchloride of mercury are not reliable; they, especially the perchloride, coagulate the albumen about the bacillus, and thus take too long to destroy it, so that the sputum is likely to be thrown out before the work of destruction is complete. For cleansing the cup, boiling water is the best agent, and if the cup itself is boiled for a few minutes it ensures the complete destruction of any bacilli that may adhere to it.

In travelling, some receptacle such as a wide-mouthed bottle can be carried to receive the sputum. Equally great care should be taken in the emptying and disinfection of the bottle as in the case of the spit-cups.

All rooms occupied by tuberculous persons should be kept scrupulously clean and thoroughly ventilated. The disease being contagious, the room should contain no unnecessary furniture, carpets, curtains, or other hangings, as they soon become dust-laden, and dust is the bearer of the bacillus. Rugs, bedcovers, etc., should not be shaken in the room, as the dust thus diffused may contain bacilli.

Notwithstanding the best care it is safest to take for granted that the dust from all rooms occupied by consumptives contains bacilli. "It is therefore dangerous to inhabit a house which has been previously inhabited by tuberculous patients, unless it be thoroughly disinfected. The paper should be stripped off, and the walls whitened with lime; the wainscoting and floors should be scraped and washed with a 1 to 1000 solution of corrosive sublimate." \*

Due precautions against the contagiousness of phthisis demand the most conscientious care from both patients and those caring for them. To both should the danger of contagion from the sputum be most clearly explained, and the possibility of prevention of contagion by care on their part fully impressed upon them. They should be told that all cases are caused by contagion from pre-existing ones; that the disease itself is not inherited. They should be charged that on no account is a handkerchief to be used to expectorate into, as this habit, to which the most fastidious may resort, probably furnishes the most frequent means for the transmission of the germs.

The requisite care in thus limiting, if not wholly arresting, contagion of tuberculosis can be secured only by full appreciation of the danger on the part of the public; and to the profession we must look to teach the public; and that the profession cannot do until they themselves awake to a full realization of the fact that every case of tuberculosis is due to a specific poison introduced into the system from without, just as certainly as is the case with diphtheria, typhoid fever, syphilis, or any other of the specific diseases.

#### A CASE OF ULCERATIVE ENDOCARDITIS, ASSOCIATED WITH PNEUMONIA.\*

BY L. F. BARKER, M.B.

House Physician, Toronto General Hospital.

Kate G., æt. 35, unmarried, entered Toronto General Hospital Aug. 16th, 1890, under care of Dr. A. McPhedran. Only history of previous illness is that of anæmia, nine months ago, when she suffered from palpitation of the heart and noticed œdema of ankles. These symptoms disappeared under treatment. Very ill with la grippe last winter. Family history shows a predisposition to tuberculosis, mother dying at forty, and one brother at twenty-six, of consumption. Patient has herself complained of cough every winter for last three years. Two weeks before entering Toronto General Hospital she commenced feeling weak and languid; noticed slight, hacking cough. One night she perspired profusely. On August 12th she

\**British Medical Journal*, 1b.

\*A paper read before the Pathological Society of Toronto, Jan. 31st, 1891.

"gave out" entirely, going to bed with vomiting, headache, and chilly sensations. On admission to ward 24, her temperature was  $103\frac{3}{5}$ ; respiration, 20; pulse, 100

States that she had capricious appetite, occasionally ravenous before going to bed. Face shows wearied expression, with some cyanosis; patient breathing through widely opened mouth. Skin, a dirty-brownish hue, dry and hot. Veins of hands show a magenta tinge.

*Circulatory system.*—Pulse, 100, small, low tension. Heart, apex-beat,  $2\frac{1}{4}$  in. below left nipple and in a line with it. Beat, diffuse, forcible, tumultuous; loud blowing murmurs replacing first sound at apex and over xiphisternum; pulsation in veins of neck.

*Respiratory system.*—Respirations labored, 32 per minute; slight cough, no expectoration; dyspnoea, particularly on exertion; full breath causes pain in left side. Percussion reveals dulness over left lower lobe; bronchial breaking over same area.

*The urine.*—Pale yellow, slightly acid; sp. gr. 1018, cloudy, trace of albumen (picric acid test); no sugar; nothing abnormal seen on microscopical examination.

*Nervous system.*—Severe fronto-vertical headache; delirious at night

*Digestive system.*—Tongue, dry, brown and fissured; sordes on lips; some carious teeth; great thirst; complete anorexia; constipation; some abdominal tenderness; liver slightly enlarged; spleen, markedly enlarged.

*The blood.*—An examination showed diminution in the number of red blood corpuscles, about three million to 1 c.m.m. There was a considerable degree of leucocytosis. The w.c.b. were large, and some of them contained two or three nuclei. Dr. McPhedran found as many as seventy leucocytes in one field (Leitz syst. 7, ocular 4). The specimens which I examined were not so rich in leucocytes.

The case was diagnosed by Dr. McPhedran as one of acute ulcerative endocarditis and the prognosis pronounced unfavorable.

The bowels were opened by enema, and 10 grains of antipyrin given to relieve the severe headache; sponging when temperature above  $102\frac{1}{2}$ . Thirty minims of tincture digitalis with five minims of liquor strychninae were given every four hours, together with liberal doses of brandy.

The patient gradually grew worse, delirium becoming constant. On August 21st great abdominal distension came on. This was relieved by passing long rectal tube. She had dysphagia the next day, gradually grew weaker; dyspnoea became more marked; there were involuntary evacuations of fæces and urine; patient died at 6 p.m.

*Post mortem.*—August 23rd: *Ante mortem* clots found in aorta and pulmonary artery. Sixty c.c. of fluid in pericardial sac, non-inflammatory. Endocardium stained bright red. Mitral valve showed shallow ulcerations along "line of contact." Both sides of heart dilated; dilatation of left auricle particularly noticeable. Wall of left ventricle hypertrophied. Evidences of dry pleuritis over left lower lobe. Lower lobe of left lung consolidated in state of gray hepatization; same condition in lower portion of upper lobe on same side. Spleen weighed 370 grammes; very friable; hemorrhagic infarcts present. Kidneys showed cloudy swelling and infarctions. In the liver one noticed some infarctions, as well as pigmentary and fatty degenerations. The uterus proved to be a most beautiful specimen. There were a large number of small fibroids connected with it, subperitoneal and interstitial. Section through these showed the typical "whorling" of the leiomyomatous fibres. The ovaries were both diseased, containing hemorrhagic cysts.

*Remarks on the case.*—A careful study of the history of the case and the clinical phenomena leads us to accept the following view:

The patient had been profoundly anæmic for some time, as shown by above history of dyspnoea, pallor, palpitation and œdema. Possibly she was leucocythæmic, though the size of the spleen did not exceed what one might expect from a general septic infection. Moreover, microscopical examination failed to discover any increase in the lymphoid tissue of kidney or liver. The debilitated system formed a favorable nidus for the development of certain bacterial forms, and on Aug. 12th the complete prostration was due to either the onset of acute pneumonia in the left lower lobe or the cardiac ulcerative process. One would be rash to make any *positive* statement regarding the relation of heart lesion to lung lesion. Were the heart lesion primary and the pneumonitis



secondary, we would expect, (1) that the ulcerative process on the valves might be extensive, (2) that the pneumonitis would be catarrhal in its nature (inhalation-pneumonia), and (3) that the right side of the heart might just as well be affected as the left. Again, were the pneumonia primary, and the pathological changes in the endocardium secondary, we might expect (1) the pneumonic changes to be well advanced, (2) on account of the circulatory mechanism, the left side of the heart more likely to be affected than the right, and (3) the pneumonitis to be croupous. The points in the latter view are supported by the records of the autopsy. Perhaps one might be nearly correct if he regard the process as a general primary septicæmia, with severe local changes in left lung and mitral valve.

Acute ulcerative endocarditis is so frequently associated with pneumonia and pleurisy, that the complication can scarcely be regarded as accidental. In fact the connection has been noted by many observers, and the term "pneumonic endocarditis" is now used by some pathologists.\*

Osler has studied a large number of these cases and described them in his exhaustive analysis of the different forms of malignant endocarditis, given in the Gulstonian lectures, 1885. Speaking of pneumonic endocarditis he says that "it certainly is a seductive view to take of its pathology, to regard the local pulmonary lesion as excited by the growth of micrococci in the air-cells, and the various consecutive inflammations—the endo- and pericarditis, the pleurisy, the meningitis, the membranous gastritis and colitis, as due to the penetration of the organisms to deeper parts, and their local development under certain conditions dependent on the state of the tissues. The processes are all of the character described as croupous, and have as common features the presence of micrococci in a coagulable exudation. We have still to settle the identity of the organisms of the air cells with those of the consecutive inflammations; but we may reasonably hope ere long to have some positive data from investigations in this disease, which, more than any other, offers favorable opportunities for the solution of these problems." †

Unfortunately our present arrangements did not permit of a careful bacteriological examination of the affected organs, and consequently there are no reports of culture and inoculation experiments.

## A NEW MICRO-CHEMICAL REACTION OF LARDACEIN, OR "AMYLOID."

[PRELIMINARY NOTE.]

BY DR. A. B. MACALLUM.

In a communication recently made to the Royal Society of London, I pointed out that the occurrence of iron can be demonstrated in the chromatin of a very large number of cells, animal and vegetable, and that the firmness of its combination with the chromatin is comparable to that obtaining in hæmatin and the ferrocyanides. Concurrently with this investigation I carried on another which may be of not less interest. I had during the past two years suspected lardacein, or "amyloid," to be a chromatin. Since I discovered the method of demonstrating, micro-chemically, the presence of iron in nuclear chromatin, it occurred to me to put my suspicions as to the nature of lardacein to the test. For example, if it belongs to the chromatin class of compounds it ought to contain iron, not as an albuminate, but in a condition somewhat similar to that present in true chromatin. By a method to a certain extent different from what I used in the case of nuclear chromatin, I have succeeded in demonstrating, micro-chemically, the presence of iron in the deposit of all the specimens of lardaceous organs accessible to me, and in showing that the metal is combined in the lardacein in a manner similar to what it is in chromatin. This indicates that there is some chemical relationship between chromatin and lardacein, and a series of experiments with the latter substance seems to corroborate this opinion. That the iron present is not due to infiltration of the deposit with hæmatin, or similar compounds, is shown by the experiments. Whether lardacein *is* an altered chromatin (or nuclein) is a question upon which I reserve an expression of opinion.

When a number of other experiments on lardacein, which I am carrying on just now, are completed, I hope to publish fuller details of this investigation.

\* Hamilton's Pathology, Vol. I., p. 607.

† British Medical Journal, 1885.

## Selections.

MODE OF ENTRY OF THE TUBERCULAR POISON INTO THE BODY.—A very good summary of the various paths of infection adopted by the tubercle bacillus is given by C. Bollinger in the *Münchener Med. Wochenschrift*, 1890, No. 43. He considers that the frequency of infection through the skin has been under-estimated. Several cases have been recorded of direct inoculation by wounds received from broken spittoons, etc., by bites, after circumcision, by morphia syringes, and earrings. Eczema and impetigo increase the susceptibility of the skin. No case has as yet been attributed to vaccination, and it would appear that the tubercle bacilli are unable to live in the vaccine lymph. They also appear unable to pierce the pores of the skin as do some of the pyogenic organisms. The susceptibility of the mucous membranes is increased by inflammatory processes, such as otitis, rhinitis, conjunctivitis, pharyngitis, etc.; from thence the poison travels to the submaxillary glands and those of the neck, and generally causes local tuberculosis of the glands. The chief point of infection is of course the lungs. Local predisposition is best exhibited by apices which have been before diseased, but have undergone a healing process. The movement is deficient both in expiration and inspiration, and the liability to reinfection is increased by anæmia, irritants (such as coal and metallic dust), constitutional influences, such as diabetes, disturbances of digestion, and unhealthy surroundings. The poison may pass through the lungs and attack the bronchial glands, under which circumstances the disease may be very insidious. The predisposition of the lungs again exhibits itself in metastasis; not every tubercular disease of these organs is due to inhalation of the bacilli or their spores. As regards primary tuberculosis of the testicles, joints, and bones, Bollinger considers that a latent hæmatogenic infection must be understood, which leaves as little trace of its point of entry as does a primary septic endocarditis or an osteomyelitis. Tubercular disease of the larynx depends upon an autoinfection through the sputum. The rarity of this disease in children is explained by the infrequency of pulmonary cavities in the rapid forms of phthisis.

Primary tuberculosis of the intestine generally, combined with an affection of the mesenteric and retro-peritoneal glands, is usually occasioned by means of vitiated food and contaminated feeding utensils. Secondary tuberculosis of the intestine depends upon an autoinfection. The tubercular poison passes through to the intestine unaltered by the juices of the stomach and attacks the Peyer's patches and solitary follicles. Tuberculosis of the peritoneum, which is three or four times as common in men as in women, can arise directly from ulcers of the intestine, from tubercular abdominal glands, or, especially in women, from the urogenital tract; further, through contagion from the lungs and pleura, and finally in the course of miliary tuberculosis, or from caseous bronchial glands. Primary tuberculosis of the peritoneum is rare (3 to 4 per cent. of all cases). As regards the infection from milk, this is, in Bollinger's opinion, undoubtedly due to the udder of the cow being affected with the disease. Infection through the milk of tuberculous women has not yet been proved. In tabular form the organs of the body are thus affected, beginning with those most frequently diseased:—(1) Lungs, (2) the lymphatic glands, (3) intestine, (4) serous membranes, (5) larynx, (6) spleen, (7) joints, (8) bones, (9) liver, (10) kidneys, (11) the genital tract, (12) the skin, (13) brain and spinal cord, (14) muscles.—*Lancet*.

THE "MEDICAL HAT" QUESTION.—In our issue of February 21st we took occasion to notice a proposal that a hat of particular make should be used as a distinguishing mark of medical practitioners. It now appears that the desire for peculiarity has not been limited to this country. As if by a side wind of suggestion, medical opinion in Berlin has, it is said, arrived at nearly the same point. There is a difference, however, and a material one. This time it is not the doctor, but his coachman, who is about to undergo alteration. In future a white hat will be for him like the fireman's helmet—a sign of urgency before which ordinary traffic will be expected to give way. The idea, it must be allowed, gives promise to some practical advantage, and many busy practitioners would be only too well pleased if by so simple a device they could scatter the obstructions which in town

practice, render the daily round a protracted and a devious task. By the sick whom they visit it should be hailed as an earnest and speedy relief. If, therefore, any suitable distinction commends itself to professional taste, no serious objection, we presume, could be urged against it. There would still remain the uncertainty whether the charioteers of other interests would be willing to admit the claim of medicine to precedence on the road. On the whole, therefore, we should prefer, before advising the adoption of any scheme of hat reform, to watch the progress of the new departure in the German capital. The matter is not so urgent but that it may be still further considered.

THE DIAGNOSTIC VALUE OF THE PHYSICAL SIGN "TRACHEAL TUGGING" IN THORACIC ANEURYSM.—Dr. R. Lea MacDonnell, of Montreal, has recently (*Lancet*, March 7th and 14th, 1891) called attention to a method of examination which he says is of great aid in diagnosing aneurysm of the transverse arch of the aorta. It was first described by Surgeon-Major W. S. Oliver in 1878, but has never come into general use. The process is as follows: "Place the patient in the erect position and direct him to close his mouth and elevate his chin to the fullest extent; then grasp the cricoid cartilage between the finger and thumb and use gentle upward pressure on it, when, if dilatation or aneurysm exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress should this accompany the disease." The physical sign is known as "tracheal tugging." With a view of forming a just estimate of its value, Dr. MacDonnell has collected the histories of all the cases of thoracic aneurysm recorded in the case-books of the Montreal General Hospital since 1878, omitting those in which the absence or presence of tugging was not definitely noted. The cases are twenty-three in number, and to these he has added two observed in private practice. In seventeen of the twenty-five cases tracheal tugging was noted. An autopsy was obtained in eight of the seventeen confirming the diagnosis. After a careful analysis of the twenty-five cases, Dr. MacDonnell feels warranted in making the following statements:

(1) Tracheal tugging is never present except in aneurysm.

(2) When tracheal tugging is present, the aneurysm is so situated as to press from above downward on the left bronchus, or upon that portion of the trachea immediately adjacent to it.

(3) Tracheal tugging may be present when many other physical signs and symptoms are absent.

(4) Tracheal tugging does not occur in aneurysms which do not involve the transverse arch.

(5) Direct pressure on the trachea does not cause tracheal tugging.

Dr. MacDonnell adds that tracheal tugging is a very early sign in the history of the case. In all the cases in which it was present, it was detected on the patients' admission to the hospital.—*N. Y. Med. Jour.*

THE TREATMENT OF PULMONARY TUBERCULOSIS AND OF TUBERCULAR PLEURISY BY HYPODERMIC INJECTIONS OF GUAICOL AND IODOFORM.—Picot (*La Semaine Médicale*, 4th March, 1891) records the results obtained in twenty-five cases of pulmonary and pleural tuberculosis by the combined use of those remedies. The drugs were introduced subcutaneously in liquid form, dissolved in olive oil, each c.c. of the fluid containing 0.01 centigramme of iodoform and 0.5 centigrammes of guaiacol. The injection was made into the supra-spinous fossa. The treatment was commenced with 1 c.c. of the fluid, but as much as 3 c.c. could be injected without any local reaction at the seat of injection, save the occasional occurrence of a slight degree of numbness, which quickly disappeared. The dose was repeated on every second day. The absorption of the fluid was demonstrated by the author, through the detection of iodide of potassium in the urine, and in one case, *post mortem*, in the lungs. No inconvenience or disturbance followed the injection, except sometimes a certain degree of colic and diarrhoea, which passed away when the treatment was suspended for a few days. In those cases which terminated fatally from the natural course of the disease, there was no sign of any recent increase of congestion or other change which might be supposed to be of serious im-



port. Of the twenty-five cases of pulmonary phthisis thus treated, no important improvement was observed in three which finally ended fatally. But the *post mortem* examination showed that the vomicae were drier than usual. In the other twenty-two cases, amelioration and improvement in varying degree were noted. This consisted in diminution or disappearance of cough and of expectoration, reduction of physical signs, diminution in bacilli, and gain in weight. The author speaks with great reserve of cures, but has much confidence in emphasizing the degree of improvement obtained. Eight cases of pleurisy were put under treatment, of which three were discharged completely well, and five were progressing towards recovery when the latest report was made.—*Edinburgh Medical Journal*.

KUMYSS AS A FOOD FOR BABIES.—In a recent issue of the *Nightingale*, Dr. John H. Ripley says, after having spoken of condensed milk: "The next best food for babies is Dr. Brush's kumyss. I say Brush's because that is the best kumyss made. In a certain proportion of cases it even excels all other foods. I will give you an instance: A doctor came to me in regard to his own child. The baby was four months old and was suffering from summer complaint. He had tried all kinds of foods—sterilized milk amongst others. The child had wasted to skin and bone, and he was afraid that it could not live more than a few days. I was about getting off to the country and I told this doctor that I could not go to see his child, but that I would advise him to try Brush's kumyss. He did so and the child recovered. He told me that the child commenced to pick up at once."—*New York Medical Journal*.

A CLAIRVOYANT OUTWITTED.—A correspondent sends us the following newspaper anecdote: "The faith of certain Bangor believers in the powers of the so-called clairvoyant physicians has been shaken by a recent incident. It is one of the boasts of these physicians, that if a patient sends them a lock of his hair they can prescribe a proper treatment. In order to test this point a number of wags in a near-by town cut a few locks of fine hair from a dog's tail and sent it by mail to a well-known Bangor clairvoy-

ant, signing a lady's name to the letter. After a few days a reply came from the doctor, declaring she had some serious internal trouble, which could be cured only by placing herself under his care or that of his wife. He further said that allopathic malpractice had caused her trouble. The young men who practised this imposition are now having a good deal of fun at the doctor's expense."—*N. Y. Med. Jour.*

ANTISEPTICS IN RHYME.—That eminent poet and builder of lofty and sustained iambics, Dr. G. M. Deney, of Keytesville, Mo., in a recent contribution to rhyme and surgery (*Journal of the National Association of Railway Surgeons*) says:

"Although in details we may vary,  
Some plan is necessary  
To heal a wound by first intention.  
Some needful rules I here will mention.  
The surgeon first his clothes should doff,  
His coat and vest and shirt pull off.  
In rubber apron should be drest,  
Extending from the feet to chest.  
Scrub well his hands with soap and water,  
If he don't he ort'r.  
The patient, sponged till all is sweet,  
Is laid upon a rubber sheet.  
The towels all on chairs are hung,  
And water by the waiter brung.  
As vicious germs will always breed,  
Some antiseptic he will need.  
As bichloride is dangerous stuff,  
One in two thousand is enough.  
Carbolic acid one one-thirty  
Will keep the knives from getting dirty."

—*N. Y. Med. Rec.*

DR. LOUIS S. MCMURTRY says: "It is now well known that most cases of hæmetoceles, so called, are in reality cases of ectopic pregnancy. The treatment in all cases should be immediate abdominal section. The uterine appendages of both sides should be removed, inasmuch as the predisposing salpingitis is symmetrical. I have now operated in three cases within the last two years for ruptured tubal pregnancy, and all have recovered. The only safety in such a condition is immediate operation. The diagnosis before rupture is practically impossible. When rupture occurs the indications for surgical interference are as positive as in treating a wound of the brachial artery."—*Med. Mirror*.

THE DEODORIZATION OF IODOFORM BY CREOLIN.—Dr. Ludwig Vaczi, a practitioner in Nagy-Karoly, communicates to the *Medicinisch-chirurgische Rundschau* his discovery of the power of creolin to deodorize iodoform. He had prescribed an ointment consisting of one part of creolin, two of iodoform, and twenty-five parts of vaseline. On the following day he was surprised that not only was the usual color of iodoform ointment changed, but that there was no smell of iodoform and only a slight smell of creolin. He points out how important it is in many cases that the presence of iodoform should not be known by its odor, and considers creolin the very best of all deodorizing drugs for the same. It not only does not irritate, but it is also itself a good disinfectant.—*Lancet*.

THE TREATMENT OF TUBERCULOSIS BY CANTHARIDINATE OF POTASH.—Professor Liebreich (*Berlin Klin. Wochen.*, 1891, No. 9) communicated to the Berlin Medical Society, on Feb. 25th, a paper on the "Treatment of Pulmonary Phthisis by means of the Active Principle of Cantharides." The internal use of cantharidin is followed by the exudation of serum from the capillaries of the kidneys, lungs, and other organs. This exudation is more abundant in the case of capillaries which are already irritated. Presumably, therefore, a dose of cantharidin which is insufficient to produce such exudation from healthy capillaries will suffice to do so from capillaries previously disturbed, as is the case with the pulmonary capillaries in phthisis. The value of the exudation might be twofold: (*a.*) The serum might improve the nutrition of cells and so correct a morbid tendency; (*b.*) It might act prejudicially on the bacilli. Liebreich advises that the treatment be commenced with one decimilligramme of the cantharidinate of potash. He allows a day to intervene and then increases the dose to two decimilligrammes. His maximum dose was six decimilligrammes. He emphasizes the care that is required in the avoidance of the treatment where the kidneys are disturbed. His experiments were in course of progress, but so far as they went, they encouraged him to believe that good results were to be expected from the method. After the communication was made, Drs. Heymann, G. Guttmann, and B. Frankel, maintained the value of the

method by reference to a considerable number of cases which they had thus treated. The cases were mostly laryngeal, with frequent pulmonary affection. In Heymann's cases there was marked improvement, both general and local, and the characteristic symptom diminished or disappeared; but he did not observe change in the bacilli. Frankel, on the other hand, reports a diminution in the bacilli and an alteration in their staining proclivity. They required, in his experience, much longer exposure to the influence of the staining medium than under ordinary conditions. Frankel reports that he was able to trace progressive improvement, and, in some instances, disappearance of several of the more characteristic phenomena of laryngeal tuberculosis, and he thinks the good result was directly the outcome of the action of the remedy on the bacilli.—*Edinburgh Medical Journal*.

THE INTRAVENOUS INJECTION OF GOAT'S BLOOD SERUM.—Lépine (*La Semaine Médicale*, 25th February, 1891), in discussing this subject, recommends the *intravenous* injection of blood serum obtained from the goat by a process which he describes. If the operation be conducted slowly, as much as 80 to 100 c.c. can be introduced without any complaint of oppression or other discomfort. The method can be repeated every second or third day. Lépine is not in a position to say whether the method is likely to prove really serviceable in the treatment of phthisis; but the idea of treating an infectious disease by the transfusion of the blood of an animal which is refractory to the particular disease is an original scientific conception which should be pursued.—*Edinburgh Med. Journal*.

THE THERAPEUTIC VALUE OF SODIUM IODIDE.—It has been asserted by many that iodide of sodium was an inert substance, or at least that it exerted no medicinal action similar to that of iodide of potassium. Dr. Gingeot, of the Hôpital Saint-Antoine, has made a number of experiments to settle this question, and finds that the drug does possess undoubted therapeutic properties, equal to, if not superior to, those of the potassium salt, in cases of arterio-sclerosis, though it may be less potent in cases of syphilitic disease.—*Med. Rec.*

EFFECT OF QUININE ON THE HEALING OF WOUNDS.—Dr. Sokoloff has published some interesting observations on the effect of quinine administered to a wounded animal on the granulation and cicatrization of the wound. The experiments were conducted on rabbits. The fur was shaved from a portion of the paw, and an incision made through the skin and into the muscular tissue, the external wound being then sewn up and the whole dressed antiseptically. Subsequently microscopical observations were made on sections including the wound. Twenty-four rabbits which were experimented on in this way were treated with hydrochlorate of quinine, half a grain of which was given per diem for each kilogramme of body weight. A similar number of control rabbits were operated upon in precisely the same manner, but were not given quinine. Dr. Sokoloff gives a detailed description of the microscopical appearances observed each day for eight days in the two sets of cases. The effusion of blood was much the same in both, but there was a marked difference in the condition of the muscular tissue. In the control animals this lost its striped character, the portions in the immediate vicinity of the wound presenting the appearance of an amorphous homogeneous substance containing here and there a few muscular fibres or breaking up into separate pieces as in coagulation necrosis. Besides this, the muscular tissue gradually disappeared, leaving sheaths of sarcolemma either empty or filled with cells. In contrast to this state of things, sections taken from the animals treated with quinine presented little or no sign of muscular degeneration, the fibres preserving their proper structure. With regard to the cellular elements in the control animals, two forms were found in the neighborhood of the wound—a large number of multi-nuclear leucocytes and a much smaller number of large round or oval cells with a single large nucleus. The mean diameters of these cells after three days were  $19\mu$  and  $16\mu$ , after five days  $17\mu$  and  $13\mu$ , and after eight days  $18\mu$  and  $15\mu$ . During this period the nuclei presented various karyokinetic figures. In animals treated with quinine there were no multi-nuclear cells, all being oval, with a single nucleus and smaller than the corresponding cells in the control animals, the mean diameters being after three days  $13\mu$  and  $10.5\mu$ ,

after five days the same, and after eight days  $14\mu$  and  $11\mu$ . The cells were, moreover, more numerous than in the control observations. In the quinine-treated animals the karyokinetic process commenced and finished earlier than in the others, the chromatin filaments being also less numerous but thicker. Altogether there was less inflammation with quinine than without; in short, without quinine there was Zenker's degeneration, with quinine none.—*Lancet*.

"TROPIC CENTRES IN THE CORD."—Under this title M. Brissaud has contributed an important and suggestive paper, which appears in a recent number of the *Archives de Neurologie*. The paper deals primarily with the subject of alcoholic neuritis, and the subject discussed is whether associated with the changes, which are acknowledged to be present in the peripheral nerves there may not coexist in the spinal cord some change in the cells of the anterior horns of the grey matter. It is not denied that the chief force of the poison seems to expend itself on the peripheral nerves in alcoholic paralysis, as in other forms of toxæmia in which weakness and muscular wasting are observed, such as lead palsy; but the author contends that, as in some of those cases, there certainly are changes in the grey matter of the cord; so, it may be, similar or analogous changes may at times be recognizable in cases of multiple neuritis from alcohol. Changes of this nature have actually been described by d'Oettinger and Korsakoff, and by Finlay and Sharkey, and the author points out the probability of such changes occurring especially when the symptoms of muscular weakness and wasting with localized pain are confined to the region of distribution of a certain nerve or plexus of nerves. And even if changes in the cord are not recognized, it does not follow that they are not present, for it may be that changes do exist which by our present methods are still unrecognizable. A curious fact in this connection is that mentioned by M. Raymond, who produced artificially a slight degree of myelitis in animals, the symptoms of which soon disappeared. When the animals were killed a year or eighteen months later examination could reveal no trace of the original myelitis, but the nerves in connection with the injured segment of the cord were not unfrequently found to have undergone profound alteration.—*Lancet*.



# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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## EDUCATION OF GIRLS.

The methods of modern general education are excellent, but they involve certain perils for our young people. The forcing process is becoming too conspicuous, and the accompanying dangers especially affect girls at certain ages.

Dr. W. W. Potter, of Buffalo, president of the Medical Society of the State of New York during last year, in his anniversary address, took as his subject: "How should girls be educated? A public health problem for mothers, educators, and physicians." The address, which was published in the *New York Medical Journal* and appears in the Transactions of the Society, is replete with words of wisdom respecting this important subject. The author says: "The years between ten and fourteen are full of import to a girl. During them she lays the foundation for future weal or woe. . . . Many girls begin their new physiological life at the age of twelve, but if they should not do so quite so early, this is still a period when nature is making preparations for a new existence for the young female, and if her plans are interfered with or thwarted even in their smallest details, years—long suffering years, perhaps of pain, and suffering, and woe—are sacrificed to the shrine of ignorance or wilful neglect."

He then refers to the requirements of ordinary curriculum of American schools for girls, and urges that there are too many hours per day set apart for study. The result is an over-taxation in a large proportion of cases, with more or less disastrous results, which are likely to be permanent in their character. He says: "Mothers should be made to understand that

when their daughters begin to complain of headache, backache, and indescribable malaise, these are the warnings which must be heeded. They are the manifestations of nerve-tire, the crying out of the nerve ends for rest, the protest of nature against further continuance of over-work, the danger signal hoisted to warn of the relentless ravages of the approaching tornado; and, further, that, unless they receive a patient hearing and intelligent interpretation during their earlier exhibitions, they will assuredly lead to serious impairing of physical and mental vigor." The dangers referred to are not peculiar to the United States; they exist to an equal extent in Canada. It is not unusual to find our young girls at a very critical period in their lives taking heavy courses in mathematics, languages, and sciences; and, in addition, practising from one to four hours a day on the piano. We wish that the serious risks involved in such practices were more fully realized by the profession and the public.

## ONTARIO MEDICAL ASSOCIATION.

It is something over ten years since a small number of physicians of Toronto met at the house of Dr. J. E. Graham with a view of establishing a medical association for the Province of Ontario. Arrangements were made to correspond with members of the profession of Hamilton, and, as a result, a committee from the Hamilton Medical Society, composed of Drs. Macdonald, Mullen, Rosebrugh, MacKelcan, and Wolverton, met the Toronto committee in the Rossin House, Toronto, February 22. All the preliminary business was completed at this meeting, and a draft of the proposed constitution and by-laws was drawn up to be submitted to the society for approval at its first meeting.

The first meeting was held in Toronto in the hall of the College of Physicians and Surgeons, June 1 and 2, under the chairmanship of Dr. C. W. Covernton. Our venerable Nestor, Dr. Workman, was elected president, and in thanking the members for the honor conferred upon him, said he was entirely at a loss to know the reason for his selection, unless it had been remembered that he once lectured in midwifery, and it was hence supposed that he was thereby qualified to preside at the birth of the new association.

The meeting was highly successful, there being 127 present. Since that time the Association has steadily grown from year to year, and now it is undoubtedly the strongest society we have in Canada. The meeting this year, which will be held June 3 and 4, promises to equal or surpass any of its predecessors.

### THE MEDICAL COUNCIL CURRICULUM.

The committee to consider this subject has held some meetings, and will probably bring in a complete report at the June meeting of the Council. In our last issue we referred to the fact that much information had been received respecting the courses in foreign Universities. Expressions of opinion have been received from the various medical teaching bodies of Ontario, and from McGill, of Montreal.

We are pleased to find that a general interest has been awakened in this direction, and a general desire has been shown to keep this province well to the front, as far as medical education is concerned. The members of the committee have evinced a determination to investigate the subject very fully, and deserve much credit for their zeal, apart from any consideration of the conclusions arrived at.

### Meeting of Medical Societies.

#### PATHOLOGICAL SOCIETY OF TORONTO.

December 18th, 1890.

The Society met in the Biological Department, the President, Dr. J. E. Graham, in the chair.

A large number of visitors were present, on the invitation of the Council, to hear the paper of Honorary Member Dr. A. R. Robinson, of New York, on

PSOROSPERMOSE FOLLICULAIRE VÉGÉTANTE,  
(published on page of 245 THE CANADIAN PRACTITIONER.)

In the discussion which followed, Dr. A. B. Macallum said:

In Paget's disease of the nipple, as well as in epitheliomata, there are structures which are of

great interest in the settlement of the problem of the pathology of the disease. Similar structures are, as Dr. Robinson has just demonstrated, present in keratosis follicularis. The nature of these structures has now become a matter of discussion amongst pathologists, some maintaining that they are parasitic; others, that as the tissues in which they are found are pathological, it is not surprising that the latter produce abnormal elements. One observer considers them to be endogenously formed cells. In regard to the latter theory, it may be stated that there is no well authenticated observation of the occurrence of endogenous cell-formation, as pathologists understand the phrase, in the animal and vegetable kingdom. The conditions under which life has existed and does exist on the globe are so varied that, if cell life is capable of reproduction in this fashion, numerous instances would be at hand for exemplification. If we grant that in neoplasms there is but an exaggeration of the elements of the normal tissue growths, and if we admit that in normal cells and tissues there are no endogenously formed cells, we must be prepared to reject this explanation of the origin of the structures found in epitheliomata, Paget's disease of the nipple, and in keratosis follicularis. My own view as to the origin of these structures is divided between the two explanations:

- (1) That they are parasitic (sporozoa).
- (2) That they are leucocytes.

Against the first explanation, it has been urged again and again that the structures cannot be sporozoa because they do not manifest the mode of reproduction and other points in the sporozoon best known, viz., *Coccidium oviforme* of the rabbit. This objection indicates, I think, a rather inexact acquaintance with the characters of the sporozoa; the occurrence of sickle-shaped spores, which one objector urged as the test in this case, being only found in some forms, while our present knowledge of the characters of the class demonstrates that there is a great diversity in the form of the reproductive elements, and even in the mode of reproduction. At present the characters of this division of the protozoa are too little known, and therefore we are not in a position to determine the exclusion from it of forms which may after all be only aberrant examples of the class.

It seems to me that definite decision cannot be given between the two views. Whether they are leucocytes or not, one may say with some certainty that they are parasitic. In the nipple in Paget's disease the organisms are large, often greatly exceeding in size the original epithelial cell, and they frequently present all the details of structure found in a vigorous cell. If they are leucocytes, then they are out of place in the interior of the epithelial cell; and as they must thrive at the expense of the cell and irritate the latter, they are parasitic. When an epithelial cell is so irritated, its disturbed metabolism must affect the neighboring epithelial cells. An inflammation of a chronic character arises, and if the endocytes are of leucocytic origin, examples of them are multiplied and the area of their distribution increased. That leucocytes penetrate other cells is shown by observations on the livers of patients affected with acute yellow atrophy or pernicious anæmia, etc., and in acute atrophy they give rise, apparently, to structures which are as large as they are in the nipple in Paget's disease. One can readily imagine that in a struggle between a vigorous epithelial cell and a vigorous leucocyte contained within it the victory is not always on one side, and yet there is one constant result: the nutrition of the part is disturbed. This, of course, touches on the question why epithelial cells become so pathologically vigorous as to give rise to neoplasms, but I do not intend to deal with this just now. Why, on the other hand, vigorous epithelial cells should permit the entrance of leucocytes, and under what conditions, is a question which I cannot answer; but vigorous cells do permit the penetration of parasitic elements, as shown by observations on the life history of various sporozoa.

Dr. John Caven said that he had not had an opportunity of studying cases of keratosis such as were spoken of by Dr. Robinson, and could therefore offer no opinion with regard to the psorosperm origin of that disease. He had, however, during the last two years, been making a special study of cancers of all varieties, and particularly squamous epitheliomata, for the purpose of satisfying himself as to their causation. The conclusion he had reached was that so far there is nothing like definite or

even probable proof of the presence of such organisms in carcinomata. That there are bodies present, particularly in epitheliomata, which differ greatly from ordinary epithelial cells, both in appearance and in reaction with staining reagents, of course cannot be denied. These, the speaker at present thinks, to be modified epithelial cells. Certain other elements have been pointed out which, to a certain extent, resemble the so-called psorosperms of Darier. These, the speaker thinks, to be leucocytes. Their position in the centre of the masses of epithelial cells shows that they are not the *cause* of irritation and proliferation. Their absence from the neighborhood of blood or lymph vessels is readily explained by their power of amœboid movement and the fact that minute channels can be seen, in which they are sometimes lodged, between the periphery of the cell masses and the central corneous nest of cells in relation to which the organisms are most commonly collected. The fact that when these so-called organisms are most abundantly present the corneous central masses are always more or less destroyed, points to a *phagocytic* action rather than *parasitic*. Then it is to be noted that very often these cells are multinucleated, just as the supposed *destructive* leucocytes should be. Lastly, that leucocytes enter and destroy epithelial cells in new growths, the speaker can demonstrate from his preparations.

Dr. Robinson replied.

#### CIRRHOTIC LIVER.

Dr. J. E. Graham presented a specimen from a patient in the Toronto General Hospital. A barber, æt. 38; no previous history of disease before his admission, but no satisfactory history could be obtained. As far as could be made out, he was fairly well until ten days before coming to the Hospital. Then he had pain in the head and back, chills and fever, and had been in bed for some days. On his admission he presented the typical appearance of a typhoid fever patient: tongue coated, temperature 102° F., pulse 90, respirations 20. Marked tympanites, tenderness in the right iliac fossa, and very much enlarged spleen. On the back there were two or three typical typhoid spots near the spine. On the second or third day after his admission he had an intestinal hemor



rhage, which, strange to say, did not reduce his temperature. After five days he had a hemorrhage from the stomach, and died in an hour or so. The hæmatemesis was suggestive of something besides typhoid. At the autopsy there was found no evidence of typhoid fever in Peyer's patches, but there was marked cirrhosis of the liver.

Dr. John Caven reported further that the spleen on fresh section was typical of cirrhotic induration, and weighed 19 oz. There were no bacilli found. A small abscess was found in the mesentery, close to the cæcum, which was at first thought to be due to appendicitis, but the appendix was healthy, and further investigation showed the abscess to be due to a suppurating mesenteric gland. The gall bladder was of the size of an ordinary kidney, and contained pus. The fever in this case was probably the result of the suppurative process in the gall bladder.

Dr. McPhedran remarked that these profuse hemorrhages were often due to a varicose condition of the veins of the œsophagus.

Dr. Nevitt said that he had seen a specimen of the kind referred to by Dr. McPhedran. The exhibitor of the specimen stated that a blow-pipe was necessary to demonstrate the dilated veins *post mortem*.

Dr. Caven had not examined the veins of the œsophagus.

#### NECROSIS OF THE FEMUR.

Dr. Ferguson exhibited a specimen of necrosis of about two inches of the entire diameter of the shaft of the femur. The dead bone was removed, and perfect recovery took place without deformity.

#### SARCOMA OF THE ORBIT.

Dr. R. A. Reeve presented a specimen from a man, æt. 48, who had suffered from symptoms of blindness of the right eye for three months. Three months later there was detachment of the retina and intense pain. The eye was enucleated because he was sure of the existence of a tumor, and he thought the detachment of the retina was due to sarcoma of the choroid. The enucleation was as complete as possible, and the wound healed. The specimen was not kept, but was examined at the time, and a

melanotic tumor was found occupying one-third of the vitreous chamber.

In October, 1890, he saw the same patient, who had then a pigmented tumor of the orbit, the contents of which were eviscerated and zinc chloride applied. The case was of interest from the length of time between the appearance of the first and second tumors. He did not consider it a case of melanotic sarcoma. Melanotic sarcomas are the most malignant of tumors. Sometimes the tumor is encapsuled and can be removed in the early stage in its entirety. If in the first instance he had failed to remove all the growth, it would have recurred earlier. This, however, did not return for fifteen years, and therefore it was not a true case of recurrence. Possibly the elements of the disease lay quiescent in the deep part of the orbit, apart from the original tumor. He suggested that possibly the artificial eye that had been worn constantly for fifteen years had acted as an irritant and produced the second tumor.

Photographs were exhibited showing the different stages of the disease.

Dr. John Caven stated that the second tumor was a mixed, round, and spindle-cell sarcoma.

The meeting then adjourned.

Jan. 31st, 1891.

The Society met in the Biological Building, the President, Dr. J. E. Graham, in the chair.

Dr. Oldright presented

#### (1) PATENT DUCTUS ARTERIOSUS

from a girl, æt. 20. Seen last September, was somewhat anæmic, with œdema of the feet, and albumin in the urine; no heart murmur. After four weeks in bed she had a right hemiplegic seizure; no facial paralysis. This passed off and she died the week after. Towards the end there were some purpuric spots on the face and hands. The autopsy showed a patent ductus arteriosus, with vegetations on the pulmonary side of the opening of the duct; also some atheroma of the pulmonary valves. The liver was slightly fatty, the spleen fully six times the normal size, and the vermiform appendix contained some hard fecal concretions.

Dr. McPhedran, who saw the case, had thought it was hysterical from the symptoms manifested. The heart was fairly normal as far

as he could remember, and the liver was somewhat enlarged. He could not say what was the cause of death.

Dr. Peters thought it peculiar that the only abnormality should have been the patent ductus arteriosus; there was no other deformity. The prevailing current had been in the direction of the pulmonary artery. He thought, however, that no murmur was heard in connection with the second sound because of the vegetations on the aortic valves. He had a case under his care in which he had diagnosed five separate murmurs, one of which he thought to be due to a patent arterial duct. He would say the aorta in this case of Dr. Oldright's was fatty rather than atheromatous.

Dr. McPhedran asked what was the general experience as to the occurrence of aortic lesions in children.

Dr. Peters remarked further, in reference to the hemiplegia, that it was probably from an embolus derived from the vegetations on the aortic valves, rather than from the pulmonary, and the hemiplegia would be on the opposite side if from the pulmonary artery.

Dr. Oldright replied.

## (2) TRAUMATIC PERFORATION OF THE INTESTINE.

The man was said to have been kicked on the belly; he walked home after the injury, and subsequently developed symptoms of peritonitis. An operation was thought advisable, but he suddenly became collapsed and died thirty-six hours after receiving the injury. A *post mortem* examination revealed injection of the peritoneum, intestines glued together, deposits of lymph and a large quantity of pus in the peritoneal cavity. On the ileum, six or seven inches from the cæcum, was found a rupture seven-eighths of an inch in length on the anterior aspect of the gut. He asked how soon pus could form in such a case.

Dr. Peters said that depended on the definition of pus; if it means leucocytes in a serous fluid, then it might form immediately after an injury.

## (3) EPULIS.

From a woman who presented herself with a slight tumor just posterior to the left lower canine. The trouble began last spring with

aching of the teeth. She had some teeth drawn, but the growth increased in size. He removed the growth with part of the alveolar margin of the jaw, cutting well clear of the growth.

Dr. J. Caven found it to be a mycoid sarcoma, giant cells in a spindle-cell matrix, and containing processes of bone.

Dr. Peters said that the practice now is to thoroughly remove the growth, but not necessarily any of the bone from which it grows.

## (4) MILKY-LOOKING FLUID FROM A CYST OVER THE OLECRANON.

This was removed from a man, æt. 63, who had been suffering from rheumatism. Over the olecranon there was a flat ovoid body which felt like a flat exostosis, or fibrous tumor. The nature of the fluid had not been determined, except that it was not pus. He thought the crystals it contained were probably lime salts.

Several of the members, on examining it microscopically, decided that the crystals were leucin and tyrosin.

## ULCERATIVE ENDOCARDITIS.

Dr. L. F. Barker presented a specimen and read the history of a case of ulcerative endocarditis (see page 253 of THE CANADIAN PRACTITIONER).

Dr. Ferguson narrated the case of a man, æt. 23, apparently in good health, who in playing foot-ball got greatly overheated. Two days afterwards there was swelling in the right knee, and, in two days more, pulmonary consolidation with pleuritic effusion. The knee suppurated, and patient died. The autopsy showed marked ulcerative endocarditis. Probably the origin of the condition was the over-exertion.

Dr. J. Caven said, if recent researches are to be borne out, it would appear that all the conditions might be secondary to leukaemia, as bacteria can be found in that disease, and Dr. Cameron, of Montreal, has shown that leukaemia is transmissible.

Dr. McPhedran, referring to the condition of the blood, said it was typically leucocythæmic, the proportion being 5 to 1. Yet the spleen did not present the amount of enlargement we would have expected. We may take the view that the lung lesion was the primary one and the endocarditis secondary, but the other view re-

garding the heart lesion was supported by the fact that it appeared older than it would have been had Dr. Barker's view been the correct one. He thought Dr. Ferguson's case was peculiar in that there was such an amount of pus in the pleura so early; he had never met with such a condition. The existence of leukaemia could not be determined in a single examination of the blood.

Dr. Graham thought Dr. Ferguson's case might be explained as septic trouble in a case of old heart lesion.

Dr. J. Caven said the theory had been advanced that in malignant endocarditis some heart lesion must always have preceded.

Dr. Acheson asked if it was not a general fact that in diseases due to micro-organisms there must always be some lesion of the surface to enable the organisms to effect an entrance; otherwise there will be no infection, as in the case of diphtheria, where some abrasion of the mucous membrane of the pharynx was always antecedent to the development of the disease.

Dr. Barker replied, and said that the case might be explained as one of general infection resulting in a simultaneous endocarditis, pneumonia, etc.

#### HEAD OF A FEMUR REMOVED FOR TUBERCULAR DISEASE.

Dr. Cameron presented this specimen. The patient suffered from hip-joint disease for some years. The head of the bone was excised through an anterior incision between the sartorius and the tensor fossæ femoris. There is seen to be disease in the cancellous tissue of the bone, and some erosion of the cartilage.

#### CARD SPECIMENS EXHIBITED.

Dr. Cameron—Three ovarian cysts.

Dr. Scadding—Ovaries removed for oophor-  
algia.

#### MICROSCOPIC SPECIMENS.

Dr. Acheson—Epithelioma (rodent ulcer) from the skin of the temple, removed by Dr. Nevitt.

Dr. Barker—Liver and kidney from his case of ulcerative endocarditis.

Dr. J. Caven—Mycloid sarcoma. Dr. Old-  
right's case.

The Society then adjourned.

## Reviews.

*The Pocket Materia Medica and Therapeutics; a Résumé of the Action and Doses of all Official and Non-official Drugs now in Common Use.* By C. Henri Leonard, A.M., M.D., Professor of Medical and Surgical Diseases of Women and Clinical Gynæcology in the Detroit College of Medicine. Cloth, 12 mo., 300 pages: price, postpaid, \$1. Detroit: The Illustrated Medical Journal Company, Publishers.

The drugs of as late introduction as 1891 are to be found in this volume. The author claims to have incorporated everything of merit, whether official or non-official, that could be found either in standard works or from many manufacturers' catalogues.

*Diseases of the Digestive Organs in Infancy and Childhood.* By Louis Starr, M.D., late Clinical Professor of the Diseases of Children in the Hospital of the University of Pennsylvania. Philadelphia: P. Blakiston, Son & Co.

A second edition of this work is now issued, with the addition of a section on alterations in the odor of the breath in disease; a section on urine alterations; a chapter on massage in pædiatrics; and a detailed account of second dentition and its influence on the health in late childhood. Good wine needs no bush; this book needs no praise.

*A Manual of the Practice of Medicine.* By Frederick Taylor, M.D., F.R.C.P., Physician to and Lecturer on Medicine at Guy's Hospital. Philadelphia: P. Blakiston, Son & Co.

Any book, issuing from the school which has produced such medical classics as the works of Wicks, Moxon, and Hilton Fagge, raises great anticipations. These anticipations are fully realized, for Dr. Taylor has produced a work, less ambitious, but not less valuable than those of his predecessors. He has endeavored to offer a short yet complete account of the present state of medical practice, devoting special attention to the description of symptoms, to diagnosis, to prognosis, and to treatment. But seldom will there be found, in so little space, an account of the protean aspects of disease so complete, so trustworthy, and so stamped with the impress of personal experience and conviction.



*Diabetes, its Causes, Symptoms, and Treatment.*

By Charles W. Purdy, M.D. Philadelphia : F. A. Davis, Publisher.

The observations, experimental and clinical, made upon diabetes have been so many that the busy practitioner has neither the leisure nor the opportunity to make himself acquainted with them. Although the disease is not an everyday thing, still it occurs sufficiently often and in such marked forms as to render an accurate knowledge of it essential. The author, having thoroughly sifted all the facts known concerning diabetes, presents them in a logical and concise form, illustrated by the history of cases. The directions as to the treatment, medicinal and dietetic, are very complete. With a diabetic patient directions as to the bread to be eaten are always given, and some certain brand of flour recommended. Dr. Purdy has done well to give the analysis of these so-called diabetic flours. One, made in Watertown, N.Y., and largely advertised in this city, is stated by him to contain 67.17 per cent. of starch.

## Pamphlets and Reprints.

*Wood's Medical and Surgical Monograph* for March contains: The Modern Diagnosis of Diseases of the Stomach, by J. M. Purser, M.D., Dublin; Unsoundness of Mind in its Legal and Medical Considerations, by J. H. Williams, London; Baldness and Grayness, their Etiology, Pathology, and Treatment, by Tom Robinson, M.D., London.

*The Dangers Arising from Syphilis in the Practice of Dentistry*, by L. Duncan Bulkeley, M.D.

*The Thermometer in Obstetrics and Gynecology.*

By A. D. Leith Napier, M.D., F.R.S. Ed., Member of the Royal College of Physicians, London, etc. London: H. K. Lewis, 136 Gower Street.

*Crime and Responsibility.* By Daniel Clark, M.D., Medical Superintendent Asylum for Insane, Toronto; Professor of Psychology, University of Toronto, etc. Reprinted from *American Journal of Insanity*.

*The Prevention of Tuberculosis.* An address delivered at the American Public Health Association, Charleston, S.C., Dec. 16th, 1890, by Lawrence F. Flick, M.D., of Philadelphia. Reprinted from the *Sanitarian* for February, 1891.

*Surgical Relief for Biliary Obstruction.* By Henry O. Marcy, A.M., M.D., L.L.D., of Boston, Surgeon to the Hospital for Women, Cambridge, etc. Read in the Section of Surgery and Anatomy, at the forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890. Reprinted from the *Journal of the American Medical Association*, December 20th, 1890.

*The Influence of Climate in the United States Over Bright's Disease.* Reprinted from the *New York Medical Journal*.

*Examination of the Urine for Life Insurance.* A lecture delivered at the opening of the new building of the Chicago Post-Graduate Medical School, Jan. 7th, 1891, by Charles W. Purdy, M.D., Professor of Urinary and Renal Diseases at the Chicago Post-Graduate School, etc. Reprinted from the *New York Medical Journal*.

*Certain Causes of Major Pelvic Troubles Traceable to Minor Gynecology.* Read before the Philadelphia County Medical Society, and reprinted from its Transactions

*A Retrospect of Abdominal Surgery.* Reprinted from the *Medical News*.

*Cleanliness in Maternities.* Reprinted from the *Medical and Surgical Reporter*.

*Ectopic Pregnancy and Puerperal Peritonitis.* By Joseph Price, M.D., Physician to the Preston Retreat, etc., Philadelphia.

## Personal.

DR. WM. H. HINGSFON, of Montreal, received the honorary degree of LL.D. from the University of Victoria College, at the regular meeting of Convocation, May 13.

DR. ARTHUR JUKES JOHNSON, the representative of the Midland and York division in the Ontario Medical Council, has written to his constituents asking for their wishes and opinions with reference to subjects likely to be discussed at the coming annual meeting.

DR. W. H. ELLIS, professor of applied chemistry in the Medical Faculty of the University of Toronto, has gone to Europe.

DR. CHARLES W. DULLES has resigned the editorship of the *Medical and Surgical Reporter*, and been succeeded by Dr. Edward T. Reichert, professor of physiology in the University of Pennsylvania.

DR. A. O. HASTINGS sailed from New York for England, May 13th.

### Therapeutic Notes.

POWDER FOR ACUTE ECZEMA.—*La Semaine Médical* gives the following prescription of Alexinski for this condition :

|                             |            |
|-----------------------------|------------|
| R.—Oxide of zinc . . . .    | 15 grains. |
| Subnitrate of bismuth . . . | 30 "       |
| Powdered starch . . . .     | 1½ drs.    |
| Powdered lycopodium . . .   | 1½ drs.    |

This powder is to be dusted over the parts which are affected, night and morning.—*Med. News*.

LOCAL ANÆSTHESIA IN SMALL OPERATIONS.—Dobisch recommends to spray the skin with Richardson's apparatus for about a minute with the following mixture, if the operation is not to last more than from two to six minutes:

|                         |      |
|-------------------------|------|
| R.—Chloroformi, . . . . | 10.0 |
| Ætheris, . . . .        | 15.0 |
| Menthol, . . . .        | 1.0  |

—*Edin. Med. Jour.*

### Miscellaneous.

MEDICINE is fairly well represented in our legislative assemblies. There are 21 physicians in the Dominion Parliament and 11 in the Ontario Legislature.

A TREATMENT OF EPISTAXIS.—Mr. Jonathan Hutchinson has made a note in his *Archives of Surgery* of a treatment of epistaxis which, he avers, has never failed of success in his hands, and he has had many very rebellious cases. It consists in plunging the patient's feet and hands into water as hot as can be borne.—*New York Medical Journal*.

ONE of our practical country practitioners from one of the upper counties in this State was recently on a visit to New York, and, among the other wonders of Gotham, took in one of the gynecological clinics. It was one of the professor's field days, and, at the conclusion of a brilliant clinic, he asked Dr. F., "what he thought of medical matters in the metropolis?" Dr. F. replied: "Well, I would rather be a moonshiner down in Tennessee than a uterus up here in the hands of you New York doctors."—*Southern Practitioner*.

TO ABORT A BOIL.—The ointment of the nitrate of mercury is said to be an excellent application in the case of a commencing boil or felon, its early use in most cases sufficing to prevent the formation of the furuncle.

THE ordinary obstetric fee in some parts of China is, among the better classes, two dollars when a male child is delivered, one dollar for a female. Among the poorer classes the fee is one dollar for a boy and fifty cents for a girl.

A LARGE addition will be made to the College of Pharmacy, Toronto, at a cost of about \$12,000.

### Church St. Pharmacy.

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Original Communications.

AN ABSTRACT OF THE PRESIDENT'S  
ADDRESS, DELIVERED BEFORE  
THE ONTARIO MEDICAL  
ASSOCIATION.

BY DR. W. H. MOORHOUSE, LONDON.

LADIES AND GENTLEMEN,—Allow me to tender to you my sincere thanks for the kindly spirit you manifested towards me when you elected me to preside upon this occasion over this talented, intellectual, and scientific body. The chair has heretofore been filled by men who are distinguished members of the profession, and I feel justly proud of being permitted to be their successor; but while thoroughly appreciating the honor conferred upon me, I am fully alive to the fact that in honoring me the Association sought to honor, not me alone, but the profession in the western portion of our fair province, and I trust I may do them credit, as their representative, by acquitting myself in a manner worthy of the position. Personally, I feel that there are other members of the profession who could more ably and with greater dignity preside over such a large and representative body, but I trust you will kindly overlook my shortcomings, and extend to me that forbearance and assistance which is so essential in the working of the influential and scientific Association before me.

We have now reached our eleventh annual meeting, and I need scarcely tell you that it is

with the greatest pleasure I welcome you here. Not only have I the pleasure of extending a hearty welcome to the members of the profession in Ontario, but desire to extend kindly greetings to distinguished members from other provinces of the Dominion and from the "great republic to the south," who have so kindly come to assist us in our deliberations, in the cause of science, during our present session.

The world of science and letters has been aptly likened to a republic, in which there is "no royal road to learning"; and as each individual stands upon his own merits, there being no hereditary privileges, the *least* may at some time be the *greatest*. This thought is well calculated to inspire the younger members of our profession with that zeal which is so necessary in order to excel, and I can say, without fear of contradiction, that no department of the world of science has displayed the same indomitable energy and zest in the search after truth during the last quarter of a century as that of medicine.

As we are all co-workers in this great republic of science, all standing on the same level, being earnest students in the search after truth, we trust that each will freely contribute to the general fund of information during our debates. What more noble object can engage the attention of man, or any body of men, than that for which we have met, viz., the best and most feasible means for the prevention and amelioration of disease?

The ancients appear to have clearly appreciated this fact, as they have expressed it: *Hom-*



*ines deos accedunt, hominibus dando salutem.* "Men most nearly resemble the gods when they afford health to their fellowmen." They viewed the healing art as a godlike gift for the relief of suffering humanity. Disease, to them, appeared shrouded in mystery, as also the means of affording relief; therefore it was invested with supernatural powers. I may be allowed to ask, what other subject is so abstruse, or so difficult of investigation? Enshrouded in mystery, it is indeed often most difficult to probe the causation of disease to the bottom, and thereby learn the true relationship existing between cause and effect. All honor, then, to those master minds who have striven to elucidate those problems, and have set us in the right direction of thinking and acting in the presence of the destroyer of mankind.

It may take years to establish a science, but when once established, what an impetus it gives, and how it expands our vision and places us on the highway to victory! Great discoveries are only developed and proved at long intervals; they are not the result of accident, but of careful, patient effort. Step by step does the patient toiler arrive at the goal of his ambition. Then the world proclaims him a genius. Genius has been defined as an "infinite capacity for taking pains," with the power for prolonged, close mental exertion, until the subject has been viewed and reviewed in all its bearings, and everything of interest extracted from it. All the great men whom the world has been pleased to place in this rank have been men of education, with trained intellects, who have been taught to observe and reason—Hippocrates, Galen, Avicenna, Harvey, Pasteur, and Koch, were cultured according to the age in which they lived. We are told that force of circumstances would bring men of their ability to the surface, and there is truth in the statement; but nevertheless their training must have pre-eminently qualified them for their work. At the present day this point touches us closely, and I cannot give too much credit to the Ontario Medical Council for the good work it has done towards elevating the standard of medical education in this province. Organized and put into practical operation in 1869, it has been the means of placing medical education upon a permanent basis. Prior to that date,

not only did each university have the power of granting the license to practise along with its degree, but there existed also the Homœopathic and Eclectic Boards, with equal power, each having their own standard. Young men are apt to lose sight of the great essential to success, viz., thoroughness of preparation, and not until too late do they perceive the wrong they have done, not only to themselves, but the public at large. The majority of students are inclined to regard the medical profession as a mercenary calling, by which they expect to earn a genteel livelihood, and consequently every effort is made to get the coveted diploma. This temptation naturally draws them to the college which gives the easiest curriculum. So far as the licensing power is concerned, under our present excellent management, all the teaching bodies stand on the same level, and I am pleased to see that the Council is increasing the efficiency of the curriculum by making four winter and one summer session compulsory. By introducing the summer session many minor points of importance can be gone over, which the heavier course of the winter session precludes. The standard of matriculation has also been raised, and as a university course in Arts is most desirable, we think the step should be strenuously advocated until the Council sees its way to make it obligatory.

Our various colleges and universities are becoming alive to the necessities of the day, and in consequence we find more attention being paid to the practical part of the physician's training, such as clinical teaching, the use of different instruments of precision, physiological experiments, etc.

Post-graduate courses should be instituted, where medical men, wearied with overwork, can repair for a short season and refresh themselves both mentally and physically.

The idea, no doubt derived from mediæval times, that it is an act of desecration to dissect a body, still holds sway; for in every community officious people are found who consider it a duty to claim and inter bodies which should be used on the dissecting-table. These subjects were housed and cared for by the civic authorities while living, and now when dead their bodies should furnish material for aiding scientific instruction. Were the law made more ex-

plicit in this matter, it would prevent much interference and vexatious annoyance, and further the study of anatomy, which lies at the foundation of practical medicine and surgery. The holding of *post mortem* examinations in cases of a doubtful character as to pathology affords most excellent tuition. Within the last few years I have found, in my private practice, that such examinations have become much more frequent, the educated class of people, as a general rule, readily consenting to and affording facilities for holding the same.

I especially desire to call the attention of the Association to a portion of the Code of Ethics of this body. It is a matter of regret to many that not only the spirit but the letter of this section is so frequently overlooked. I have always considered that general practitioners ought not to advertise a specialty, at the same time doing general practice, and I would like to ask if it is your intention that this section shall be stringently observed, or is it put there merely as a reminder for those who wish to observe it? Has the Association the moral courage to insist upon the strict observance of this section, or does it consent to relax its stringency?

Ten years ago this Association was founded by men who believed that this large and important province should have a society independent of the Dominion Association, and I need not tell you how prosperous it has become nor what a power it has been for the advancement of the profession. At our annual meeting last June, a communication was received from the Dominion Medical Association requesting us to consider the question of affiliation with that society, and a committee was then formed, with discretionary power, to meet the Dominion Medical Association, which was to convene in this city in September. Your committee were cordially received, and a most satisfactory basis of affiliation agreed upon. We would like to see the terms of affiliation extended to local medical societies, so that they may all work harmoniously for the advancement of our profession and the maintenance of our reputation among the nations of the world.

We are all painfully aware of the fact that our profession has its own troubles and trials with which to contend, and none are more vexatious and harassing to the busy, overworked

practitioner than the frivolous actions for malpractice which of late years have been so numerous. As a physician's or surgeon's reputation is his capital, these actions are a great hardship, as they entail both expense and obloquy; for many people, never hearing the true version of the case, consider that the practitioner must have been in fault. The monetary consideration is also a large item, which, along with the loss of time and the worry consequent upon such a suit, makes the defending physician's lot most uncomfortable and embarrassing. In order to lend financial as well as moral support to our fellow-practitioners in distress, as also to encourage them to boldly resist flagrant injustice, I think it very desirable that a "Medical Defence Fund" be raised under the auspices and direction of this Association; but as medical men are like every other class of the community, and therefore liable sometimes to become careless and run over their work without giving it the careful consideration which is necessary to insure success, some of these actions for malpractice may be well-founded; and for this reason it would be necessary to have the objects of the fund clearly understood, and also a provision made for the careful consideration of the merits of each case before assistance is granted the defendant. If the case is one of hardship, in which the defendant is clearly not at fault—and the majority of suits belong to that class—he certainly ought to receive, not only sympathy, but also substantial assistance from his fellow-practitioners.

I would also like to call your attention to the by-law referring to club practice. I can safely say that no profession or calling dispenses so much charity, in the way of gratuitous services, as our own. The very nature of our work makes this necessary to a large extent, but beyond this I think we ought not to be burdened. I feel confident that the profession, to a unit, regard the system of club practice as pernicious in the extreme, and would be pleased were it abolished. There is a great inducement for young men just entering upon practice to engage with clubs from the fact that it serves as an introduction to the public, as by attending the head, they hope to be called to attend the other members of the family. I know of one instance where a medical man has engaged

himself to attend and furnish medicine for a club of eighty families for the sum of two hundred dollars per annum. This agreement embraces all medical and surgical work except midwifery. In club or contract practice there is not the strong inducement that there is in private practice for the constant and assiduous attention which is necessary; and then there comes the temptation, which is often yielded to, to substitute cheap and inexpensive medicine for more reliable preparations. In this way I fear many lives are sacrificed, and the reputation of the practitioner injured. For this state of affairs the profession is alone to blame, and the remedy for the evil lies solely with ourselves, and must be met by the profession rigidly frowning down all contract practice except civil appointments.

I am pleased to find our Ontario medical library in such a flourishing condition, and we hope ere long to have all the great works on medicine, surgery, and science, on its shelves. The establishment of this library will undoubtedly prove very beneficial in advancing the cause of medical science. Many of the books contained in a library of this kind can only be used as books of reference, and consequently are of no use to the busy practitioner except as such, and for this reason are seldom found in private libraries. Books have been beautifully defined as the "windows through which the soul or mind looks out." They enlarge and expand our view, and through them we can, at will, converse with the master minds of the world. History tells us that the chief and most abiding glory of the ancients consisted, not in their conquests and possessions, but in their intellectual advancement as evidenced by their libraries, lyceums, and groves of learning. Canada is now asserting her right to take a place in this great republic of letters, and let us hope that in the near future she will occupy her position with honor and distinction. Shall medicine, the greatest among all the arts and sciences, lag in the race? No; rather let us increase our efforts and establish a museum in connection with our library, as so forcibly urged by Dr. Henderson two years ago.

I cannot conclude my remarks without referring to the excellent work done by our Provincial Board of Health, assisted by the various

local organizations, which are now numbered by the hundred where ten years ago scarcely half a dozen existed. By their energy and foresight the public are being educated up to the necessity for systematic cleanliness and ventilation, both in public and private, and by the proper use of disinfectants and the strict quarantining of people and places suspected of being infected contagious diseases have been stamped out. Thus many valuable lives will be saved annually, and the amount of sickness and suffering very materially lessened.

### SURGICAL TUBERCULOSIS.\*

BY GEO. A. PETERS, M.D., F.R.C.S. ENG.

Surgeon Victoria Hospital for Sick Children; Assistant Surgeon Toronto General Hospital.

It is almost unnecessary to insist in these days on the absolute identity of strumous or scrofulous affections and tuberculosis. Their unity is sufficiently attested by the following facts: Wounds accidentally or experimentally inoculated with tuberculous matter have subsequently become the seat of affections hitherto characterized as "strumous." In the second place it is found that all those diseases known as strumous, show, under the microscope, both tubercles and tuberculous tissue. Thirdly, these affections are shown to be tuberculous in nature by the constant presence in them of the tubercle bacillus. The detection of the bacilli in these tissues is, however, by no means always easy, and one may examine many sections from such a tissue without encountering a single bacillus. It is more than probable, however, that they are not so few as this would make it appear, for they may be in the spore-forming stage, and so not take the stain, or, as Watson Cheyne suggests, they may fail to respond to the ordinary stain-tests at various stages of their growth. Moreover, inoculation of such tissue into the anterior chamber of a rabbit's eye, seldom fails to produce typical tubercles on the iris, and quite recently Mr. Watson Cheyne has performed a very extensive series of inoculation experiments upon rabbits, guinea-pigs, and goats, which have demonstrated, beyond cavil, that precisely similar results follow the injections, whether the injected material be caseous matter

\*A paper read at the Post-Graduate course of the University of Toronto, Dec 18, 1890.



from a strumous joint or abscess, or an emulsion of a pure culture of tubercle bacillus.

From a histological standpoint the tubercular process is recognized as manifesting itself in two ways; first, in the form of the well-known "tubercle" or "giant-cell system," and secondly, in the less classic, though certainly not less characteristic, "tuberculous tissue," which consists in an infiltration of epithelioid cells. These cells are described by Cheyne as running through the tissues in broad bands, or being found at irregular intervals among the other tissue elements. When giant-cells are present they usually contain bacilli, but bacilli are also found amongst or in the epithelioid cells, often clinging close to the nucleus. On the other hand, they are never found in the inflammatory tissue surrounding the tubercle, unless they have been accidentally washed into that position during the process of preparation.

The most potential factors in the causation of the disease are (1) a peculiar vulnerability of tissue, and (2) the introduction through some channel of the tubercle bacilli. That a peculiar vulnerability of tissue to the ravages of the tubercle bacillus is hereditarily transmitted from generation to generation cannot be denied, and the excessive physiological activity present in the neighborhood of growing bone no doubt acts as the determining cause in the lodgment and growth of the bacilli near ossific centres or epiphyseal cartilages. Having once lodged and asserted its baneful influence, the further course of the disease is largely determined by the varying conditions of rest or irritation, and by sanitary or unsanitary environments as regards clothing, food, and ventilation.

Being in possession of these facts we direct our treatment accordingly, and thus it is that attention to constitutional conditions takes precedence of all others. It is impossible to exaggerate the importance of attention to hygienic details in the treatment of tuberculous diseases. Numerous cases are on record in which, under unusually good surroundings, the system has been able successfully to combat even advanced local disease of this nature. Nourishing, easily digestible food, in sufficient quantities and at appropriate intervals, is of the first importance. Scarcely second in this regard must be ranked warm, clean, dry clothing, and

abundance of warm, fresh air, both by day and by night. Too often patients who are carefully carried out into the open air during the day are required to sleep in a close, ill-ventilated room, possibly with other children in various conditions of health or disease. Such inconsistencies must be carefully avoided. The most important internal remedy is cod liver oil, and this must be regarded rather as a food than a medicine. As much of this important aliment must be given as the digestive system of the patient will dispose of, and its various preparations should be tried until one is found that agrees well with the patient. A most useful adjunct to constitutional treatment is the application of appliances by which absolute rest to the part is insured. It is not sufficient to put the part physically at rest; it must be given physiological rest as well; it must not be permitted to perform any function. Where this is at all possible, such rest should be obtained for the diseased part, while at the same time all other parts of the body are allowed free and unrestrained exercise of all their functions, so that the patient may move about in the open air. In order to accomplish this the surgeon's ingenuity is sometimes severely taxed, and in some cases, from the nature of the parts diseased, it is impossible.

In disease of the spine various appliances are used with satisfaction. For ordinary cases in which the symptoms are not very acute, nothing is better than a well applied plaster of paris jacket. As the case advances towards recovery this may advantageously be exchanged for a poroplastic jacket, which has the advantage of being lighter and more easily removed for cleansing purposes. In the acute stages, however, a double Thomas' hip-splint, with an extension upwards upon which the occiput may rest, is a very useful apparatus. It is much less uncomfortable than would at first appear, and the patient can be carried about upon this with the greatest ease and without causing any movement of the diseased parts. The occipital extension renders it suitable for cases in which the disease is in the upper dorsal or cervical region, as long as the patient is in the recumbent position; but in these cases, as soon as the acute symptoms have subsided, the jury-mast or croquet-hoop apparatus should be substituted for it, in order to allow the patient to walk about. For disease of the hip

I know of no better apparatus than Thomas' hip-splint. It may be made double where both hips are affected, or where the child is so young that it is impossible to secure a single splint firmly. This splint may be combined with ordinary extension apparatus during the acute stage while the patient is confined to bed, but when he is up the weight of the limb usually produces sufficient extension—the opposite boot being provided with a patten and the patient using crutches. Knee disease, again, is well treated by Thomas' knee-splint, and with this apparatus and a patten under the sound side, the patient can walk well without crutches, and at the same time keep the knee absolutely at rest—physically and physiologically.

Disease of the tarsus, ankle joint, or lower end of the tibia, may be satisfactorily treated by fixing the part in plaster of paris and providing the patient with a peg-leg, into which the bent knee is fitted; or the same splint may be used as in treating the knee. Tubercles of the upper extremity are more easily treated, as the parts may be placed at rest without difficulty without confining the patient to bed.

The question of the length of time such treatment should be continued before resorting to operation has been the subject of many discussions. Lister, Cheyne, McEwen, and Barker may be mentioned among those who advocate early operation, and over against them may be placed Howard, Marsh, Bowlby, and others. Without entering upon a discussion of the points for and against early operation, I am inclined to give my adherence to the views of McEwen, Horsley, and others, who operate, if possible, *before* caseation has set in. The results obtained by this method of procedure are most encouraging and in some instances brilliant. When one considers the almost absolute certainty with which a wound may be defended from the attacks of pus-forming organisms in these days of asepsis and antisepsis, it certainly seems justifiable to try to thoroughly eradicate from the system a local focus of disease which momentarily threatens to become general. We have all seen cases in which, as a result of operation, a patient has been almost immediately relieved of a diseased focus, which, under the more considerate treatment of rest, hygiene, and opening abscesses, would have kept the subject an invalid for

months and perhaps years. We must not forget, however, that relapses sometimes follow operations, nor must we ignore the fact that an operation may remove such an amount of tissue that considerable disability may result either immediately or remotely.

On the other hand, those who advocate a more considerate line of treatment, simply opening abscesses as they occur and attending to the hygienic welfare of their patients, are able to show some excellent results, both as regards low mortality and the usefulness of the diseased member.

An operation having been decided upon in any given case, the plan almost universally adopted, where it is admissible, is that known as Esmarch's bloodless method. The limb is exsanguinated, either by the application of an elastic bandage or by elevation—preferably the latter—and a tourniquet is applied above the seat of operation. All hemorrhage being thus adequately prevented, the surgeon can make a deliberate dissection of the parts, his vision is not obscured by bleeding, and the healthy can be easily distinguished from the diseased tissues. In removing the diseased tissues, Barker uses what he calls a flushing scoop, by which a constant stream of hot water is kept flowing through the wound, thus washing away the diseased tissue as soon as it is loosened. Every particle of diseased tissue should be removed, and the external openings should be so free as to bring all parts into the view of the surgeon. The after treatment varies with different surgeons. Barker fills the wound with an emulsion of iodoform in glycerine (10 per cent.), then squeezes this out and closes the wound with stitches without any provision for drainage, applying the dressings in such a way that the least pressure will be over the line of the incision, so that any excessive secretion will be squeezed out between the sutures. Lister and Watson Cheyne, after thoroughly clipping away all diseased soft parts and gouging out all the diseased foci in bone, swab the whole wound area with very powerful germicides, such as zinc sulph. gr. xl. ad. ʒj, hydrarg. perchlor. 1-500, or ac. carbolic. 95 per cent. They hold that even the pure carbolic does not prevent union by first intention. In addition, they always use iodoform in some shape. The disinfection of the wound

having been completed, thick absorbent antiseptic dressings are applied and bandaged with considerable pressure, so as to limit capillary oozing. The tourniquet is then removed and the part elevated. In this way the interstices of the wound become filled with blood-clot, which becomes organized, and this conduces to the rapidity of healing.

### PATHOLOGICAL WEEPING.\*

BY DR. OSBORNE,

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Hamilton.

I have ventured to bring before you the subject of excessive lachrymation because it is a form of disease as interesting to the general practitioner as to the specialist. The commonly accepted ideas as to the causative factors of this affection are not beyond criticism, and it appears to me that a modification of them might lead to better results from treatment. In this paper my endeavor will be to show that pathological weeping is due rather to excessive secretion than to an occluded outlet.

We are so accustomed to associate the condition of pathological lachrymation with the idea of an obstructed outlet for tears that the fact of the former existing without the latter is apt to be lost sight of. We must bear in mind that the normal tear passage can only convey a limited quantity of tears, and that any stimulus which produces an excessive flow will tax the ducts beyond their capacity and cause tears to run over the cheek.

Let us consider briefly the physiology of the lachrymal gland. The nerve supply of this gland is derived from the 1st or ophthalmic division of the 5th, which also supplies the conjunctiva and a portion of the mucous membrane lining the nose. The sources of nervous stimulation of the gland are central and peripheral. The central emotional or direct stimulus comes directly from the cerebrum and occurs under the influence of physical pain or some powerful emotion. The tendency to this emotional weeping varies greatly in different individuals, and in some it appears to be almost entirely absent. Peripheral—or reflex—stimulation is produced by irritation of the peripheral

terminations of the 1st division of the 5th nerve in the eye or nose, which acts reflexly by stimulating the lachrymal gland to hypersecretion. The flow of tears following the entrance of a particle of dust into the eye is a familiar example of peripheral irritation. Probing the nose causes profuse lachrymation of the corresponding eye, and is another example of peripheral irritation.

Under normal conditions the tears are almost entirely removed by evaporation, only a very small proportion passing into the nose by the nasal duct. When the lachrymal gland receives a central—or emotional—stimulus, the supply of tears is greatly augmented and exceeds the capacity of the lachrymal canals to remove, so the excess streams over the cheek: this is the condition in an ordinary fit of weeping. From this it is evident that even the healthy lachrymal apparatus is unequal to conveying away the increased amount of secretion poured out by the gland when acting under a stimulus. From what has been said it is also clear that mere obstruction to the escape of tears will under ordinary circumstances—*i.e.*, where the tears are secreted in normal amount and are removed by evaporation—produce very slight epiphora. Taking as an example an eye otherwise perfectly healthy, in which the lachrymal punctum is occluded through spasm of its sphincter muscle, here, as in the normal eye, the greater proportion of the tears is removed by evaporation and weeping only occurs when the gland is stimulated, as when the eye is exposed to a cold wind. In such a case as this the overflow only occurs under the same conditions as it would in a normal eye, but it is more excessive, because none of the tears can pass through the natural channel into the nose. Again, it is possible, and not infrequent, to have excessive weeping as a result of irritation of the conjunctiva or nasal mucous membrane, notwithstanding the fact that the lachrymal canals are in a perfectly healthy condition. From the foregoing it is evident that obstruction to the outlet is not the essential factor in the production of pathological weeping, while a stimulus to increased secretion *must* exist in order to produce a continual flow of tears.

Let us now consider the most common form of epiphora, viz., where the nasal duct becomes

\*A Paper read before the Ontario Medical Association.



occluded by an inflammatory process and tears pour continually over the cheek. It is evident from what has been said that simple closure of the outlet cannot produce continual weeping, hence some additional cause must be sought for. In such cases a careful examination will invariably reveal the fact that the conjunctiva, or a portion of it—usually that lining the lower lid—has become implicated in the inflammatory process. Here the lachrymation is due to the combined effect of irritation of the conjunctiva and obstruction of the tear passage; the former acting reflexly to produce an excessive secretion of tears, while the latter prevents the secretion passing down the natural channel, and this combination gives rise to the most troublesome form of epiphora we have to deal with. The sequence of events in such cases is as follows: The morbid process commencing in the nose extends up the nasal duct, producing an obstruction, passes along the lachrymal canaliculus, and ultimately reaches and implicates the conjunctiva. The successful treatment of these cases requires something more than simple operative procedures directed to the opening up of the tear channel.

To diagnose the precise seat of the lesion in all cases of pathological weeping is not possible with our present knowledge, but a systematic and thorough examination will leave relatively few cases beyond explanation. In making this examination it is well to have clearly before our mind the normal structure and function of the different parts of the channel for the outlet of tears. The orifices or puncta of these canals are each surrounded by a sphincter muscle, which serves as an aspirator, drawing the fluid into the canaliculus, and at the lower extremity or nasal orifice of the nasal duct the mucous membrane forms two lips, which have a valvular action, serving to prevent mucus from the nose being forced up the ducts when blowing the nose. When a case of epiphora presents itself, we instinctively turn first to examine the puncta. Mere occlusion or displacement of these orifices is easily remedied; then the question arises, "Is there any obstruction lower down?" By inserting the blunted needle of a hypodermic syringe into the punctum and injecting water into the nasal duct, we can ascertain whether any stricture exists. It is not

within the purpose of this paper to discuss the various means employed to overcome stenosis of the nasal duct, but it is not out of place to remark that if in each case the hypodermic syringe was employed as above indicated to verify the diagnosis much unnecessary cutting would be avoided, with credit to the operator and satisfaction to the patient. As before indicated, mere opening of the nasal duct does not strike at the root of the trouble in pathological weeping; in further proof of this, cases are frequently seen in which the ducts have been—by assiduous probing—rendered so free that the patient is able to expel nasal mucus into the inner angle of the eye when blowing his nose, and still the weeping persists. In addition to any surgical procedures, we must direct our attention closely to the mucous membrane supplied by the 1st division of the 5th nerve. The conjunctiva will be our first care, and it must be closely examined, since a very slight irritation of so sensitive a membrane will produce a copious flow of tears. Stimulating astringent or soothing applications must be made according to the existing condition, and unremitting attention is sure to bring its reward. If the trouble has originated in the nose, that region must be subjected to a rigorous course of cleansing astringent and antiseptic sprays, and a brave effort made to restore it to a healthy condition. The importance of this treatment of the ocular and nasal mucous membranes cannot be too strongly insisted upon, as the success following an operation may depend entirely upon such procedures.

In a certain proportion of cases of lachrymation, the most careful examination fails to reveal the cause. The tear passages are normal, and no trouble is discernible in connection with the conjunctiva or nose. Here we must ascribe the cause to some central irritation, or a lesion involving either the nerve branch to the gland or the gland itself. In such cases, if the weeping is persistent and so severe as to prevent the patient from following his vocation, relief may be obtained by a radical operation for the removal of the lachrymal gland.

In writing these notes I have endeavored to avoid the minutiae which would only be of interest to specialists, and the entire aim of the paper has been to direct attention to the fact

that the successful treatment of pathological weeping requires something more than mere mechanical opening of the tear passages.

### KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT,  
Communicated from Berlin to the University of Toronto.

Before leaving Berlin, I send you a short report on the aspect of affairs pertaining to Koch and tuberculin, as they appear to one who has been studying them chiefly from the scientific side.

You have no doubt given up in despair the attempt to sift for THE PRACTITIONER the literature which has accumulated on the subject. The recent Surgical and Medical Congresses of Berlin and Wiesbaden respectively showed how opinion was divided even in the most authoritative quarters. On the whole, the congresses mark a slight return movement in favor of the treatment, and Koch himself was not dissatisfied with the reports of the surgeons.

Berlin itself, however, has not recovered from the dejected estimate of the treatment which most of Koch's colleagues have formed. In the Moabit alone is the tuberculin administered to any extent; but there, as many patients as ever are treated—after a method certainly very different from that employed at first. Koch, on his return from Egypt, adopted the dosage which Guttman and Ehrlich recommended—viz., the administration of doses of  $\frac{1}{10}$  of a milligramme and upwards, in such a way as *never* to evoke a febrile reaction after the first diagnostic one. The Moabit clinicians find that such small doses still produce the favorable local reaction, while the general one, with its consequences so weakening to the patient, is avoided. In certain cases the treatment is combined with arsenic, probably with the hope of utilizing the anti-bacterial virtues of that drug against the tubercle-bacilli, as originally recommended by Buchner. Koch himself seems to think that the repeated stimulation of the tubercular tissue by the minimum doses in question may result in strengthening the protective wall which isolates the invaded cells, instead of breaking it down, as the larger doses seemed to do.

Since his return from Egypt, he has been engaged with a new series of experiments on the

separation of the active substance from the lymph, with the view of eliminating possible deleterious ingredients. He showed me a watch-glass full of a white powder obtained (probably by precipitation with alcohol) from fifty grammes of tuberculin. He does not consider the powder in question to be a chemical individual, but a mixture of various albuminoid bodies, the precipitation of which carries the active substance down simultaneously. He is inclined to think that the latter may be an enzyme. If so, it is reasonable to suppose that its proportion to the other precipitated bodies will be by no means constant, but it is also possible that better results may be obtained by this method than with the fluid tuberculin. With the object of ascertaining this studies have been begun in the Moabit with solutions of the white powder, 1-1000 and 1-10000. Decimilligramme doses of the latter are without effect, while two decimilligrammes of the former produce a distinct reaction.

Koch does not intend to publish his investigations until he has concluded the present series of experiments on tuberculosis. He says he has no reason to believe that the tuberculin prepared after his method is the best form in which it is obtainable, and he prefers that other bacteriologists should experiment in other directions, adding that there are probably numerous ways in which cultures of tubercle-bacilli will yield the active substance.

Other bacteriologists naturally think that their researches would be considerably aided by Koch's describing his method first. However, it is not difficult to evoke what Metschnikoff has called the "Koch-phenomenon" on tuberculous guinea-pigs with various ways of treatment of tubercle cultures. I have succeeded in doing so with a product of tuberculous material—very rich in bacilli—from bovine tuberculosis, but the most successful imitation tuberculins are those made in fluid cultures after Hueppe's method. In this way, lymph resembling Koch's very closely may be obtained, giving reactions almost precisely of the same character. Naturally, considerable hesitation is felt about experimenting clinically with such products; but Hueppe, of Prague, has so far advanced with his work as to undertake this in collaboration with some colleagues.

Bacteriologists complain that Koch has not published the protocol of his animal experiments at least. Many investigators have been at work this winter endeavoring to confirm his results, but working in the dark without details as to dosage, extent of the disease from which recovery is possible, etc., has led to many negative results. Hueppe and Klebs are most sanguine in this respect, while Baumgarten and many French investigators have failed to arrest the disease.

During Koch's absence in Egypt, Dr. Kinyoun, bacteriologist to the U.S. Marine Hospital service, and I, began in common a series of experiments on tuberculous guinea-pigs, treating them with large doses of  $\frac{1}{10}$  gramme. Several of the animals thus treated are still alive, having survived the untreated control animals many weeks, and having reacted with regard to the local tubercular process in the characteristic way described by Koch. He advised, however, on his return, the adoption of daily smaller—1 milligramme—doses, but as far as our observation goes the larger doses appear at least to produce more visible encouraging results. It is possible that a cessation of treatment may lead to relapse, as the French investigators have found. I shall be able to speak of this in a future communication.

I am now on the point of leaving for Toronto, convinced that a long series of investigations will be required before the obscurities of the treatment of tuberculosis by products of tubercle cultures are cleared up, but well satisfied to have been able to watch from a position of vantage like the Hygienic Institute at Berlin the history of this extremely interesting period in the development of bacteriology in its relation to practical medicine.

I intend, on my homeward route, to pay a short visit to the Pasteur Institute in Paris, with the object of completing the study of methods which I have been making during the winter. I hope to send you a short communication thence.

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A COURSE of Bacteriology will be given this summer in the new Pathological Laboratory of University College, London, by Professor Victor Horsley. It was expected that it would commence June 1st and continue six weeks.

## Selections.

OPERATION FOR FRACTURED SPINE.—At a recent meeting of the Glasgow Medico-Chirurgical Society, an account was given by Mr. D. N. Knox of a case of much interest which had been under his care at the Royal Infirmary. The patient was a pit boy, æt. 13, who was admitted on account of a severe injury to his back which he had sustained through a cage falling upon him. His back was much bruised, he complained of pains of a cramp-like character in his legs, and he could only rest when laid on his side with his legs drawn up. There was a very distinct projection of the eleventh dorsal spine, evidently the result of displacement of the corresponding vertebra. There was complete loss of ability to move the legs the morning after admission, and loss of sensation, but the patient passed his urine voluntarily. An operation was undertaken thirty-six hours after the injury, and it was found that the body of the eleventh dorsal vertebra was fractured, that it was displaced backwards and its spine rotated to the right, and that the upper articular processes were also fractured and displaced. After the theca had been exposed by sawing through the laminae of the tenth dorsal vertebra the spine was extended, and the displaced vertebra restored to its position. The spinal cavity was carefully cleaned, and, on account of the large amount of bruising, the wound was stuffed with gauze, and afterwards allowed to granulate. The patient rallied well, and on the day after the operation had completely regained sensibility in his legs. The progress as regards motor power was very slow but steady, and at the time the paper was read the patient was able to take a few steps without support. The chief difficulties that had to be contended with after operation were apparently the wasting of muscles, with the proneness of the joints to become fixed, and massage and galvanism were employed with the view of obviating these. There was also difficulty at first in keeping up a good position of the back, the tendency to projection when he raised himself from the recumbent posture being impossible to counteract. Mr. Knox is to be congratulated on his success in dealing with one of a class of cases which have hitherto not been found the most favorable for



operation, and it is to be hoped that the complete restoration of the patient's power is only a question of time.—*The Lancet*.

THE VALUE OF THE TONGUE AS A RESPIRATOR.—J. M. Elborough Scatliff, M.D., M.R.C.S., writes in *The Lancet*:—"It is not generally known that nature has provided each of us with the best respirator always at hand in the tongue. For years I have personally relied on this alone, and have recommended this proceeding to many patients. When facing a cold east wind, or breathing quickly the night air, I never quite close my mouth, but purposely keep the lips a trifle parted, and at the same time curl up my tongue towards the roof of my mouth until the tip reaches as far back as the soft palate, and I gently press the arched under surface of the tongue in some degree against the hard palate (a little practise soon makes this easy to do). The cold air then, as it enters the mouth, strikes against the under surface of the tongue, as well as the floor and sides of the mouth, and is made to pass in a somewhat circuitous manner between the sides of the tongue and the buccal mucous membrane to the pharynx, being thereby warmed in its course, so that by the time it reaches the larynx it is nicely rid of chill, and does not excite cough and catarrh. At the same time a certain quantity of air, of course, finds its way through the nasal passages to the chest, and it is obvious that a larger quantity of cold air can be effectually warmed by this method of procedure than by relying on either the nose or mouth alone. That the large blood-supply of the tongue renders this organ an excellent air warmer must be obvious to all.

DEATH AFTER A DOSE OF SALOL.—Salol is usually considered a tolerably innocuous drug, but there are not wanting clinical observations which tend to show that, under certain circumstances at least, its use may be followed by dire results. Thus a case was some time ago reported by Aufrecht and Behm in which death followed its use in acute endocarditis, and more recently Dr. Chlapowski has published in a Bohemian medical journal an account of a case in which a similar fatal result followed a fifteen-grain dose ordered to a patient who was suffering from severe gastric symptoms, and who was

being examined by Ewald's method. After taking the salol the patient became restless and unconscious, the pupils dilated, the pulse became irregular, there was constant vomiting, and the urine became dark, and contained salicylic acid. Death occurred twelve days later. At the necropsy there were found gastritis and hemorrhagic enteritis, a gastric ulcer cicatrised at the cardiac end, chronic endometritis, and a cyst of the ovary. No doubt was entertained that the salol had caused the symptoms of poisoning.—*The Lancet*.

BANANAS AS FOOD AND MEDICINE.—Dr. John Dougall, of St. Mungo's College, Glasgow, has a letter in a recent issue of the *Glasgow Herald* on the banana. He quotes from Stanley's "In Darkest Africa," showing that "for infants, persons of delicate digestion, dyspeptics, and those suffering from temporary derangements of the stomach, the flour, properly prepared, would be of universal demand." During Stanley's two attacks of gastritis a slight gruel of this flour, mixed with milk, was the only material that could be digested. It is odd, also, as pointed out in Stanley's book, that in most banana lands—Cuba, Brazil, West Indies—the valuable properties of the banana as an easily digested and nourishing food have been much overlooked. Dr. Dougall has made some experiments in making banana flour. He concludes that it should be made from the ripe fruit at its place of production. In trying to make it from bananas purchased in Glasgow, he obtained, on drying the pulp, a tough sweet mass like toasted figs, an appearance probably due to the conversion of starch into sugar. Bananas contain only about 50 per cent. of pulp, and of this about 75 per cent. is water; they would yield therefore only one-eighth part of flour.—*Lancet*.

MILK-POISONING FROM COLOSTRUM.—In connection with an outbreak of milk-poisoning which took place a few weeks ago in the west-end of Glasgow, an outbreak marked chiefly by great prostration, vomiting, and purging, a report has been issued which traces the affection to the use of milk from newly-calved cows. Dr. Russell in his report says: "To send for sale as human food the milk of a newly-calved cow is always

inadvisable. All well-conducted milk companies have a clause in their contracts with farmers prohibiting this. The usual words are: 'No milk to be sent from a newly-calved cow,' but one company prescribes 'four clear days from the date of calving.' Another, in Copenhagen, requires an interval of twelve days. The normal constitution of cow's milk is peculiar for several days; Fleming says 'for five or six.' The physiological purpose is to purge the calf, and it is not surprising that the effect on human children may be violent even when the cow is doing well, especially when by any accident the milk is not freely mixed with other milk."—*Lancet*.

PHYSIOLOGICAL EFFECT OF BATHS IN TYPHOID FEVER.—Dr. Kurkutoff, who has examined the physiological effect of baths administered to typhoid fever patients in Prof. Manassein's clinic in St. Petersburg, finds that such baths exert only a slight effect on the assimilation of the fatty constituents of foods, which, as in other fevers, is notably less than in healthy persons, and indeed varies directly with the gravity of the case; but there seems to be a good deal of difference as to the power of assimilation of fatty matter in different cases, probably depending on the functional disturbance in the bowel and on the amount of the individual peculiarities of the patient. In the graver cases the effect of the baths was to improve somewhat the assimilation of fat to the average extent of nearly four per cent. In slight cases, however, the effect was, apparently at least, to diminish the assimilation to the average extent of rather more than six per cent.—*Lancet*.

STRYCHNINE INJECTIONS IN DIPHTHERITIC PARALYSIS.—Dr. W. Rozenzweig, of Neuwied, reports four cases of paralysis of the soft palate after diphtheria, occurring in children of from six to twelve years old, in which a rapid cure was effected by the hypodermic use of strychnine. The doses were from two to three milligrammes, and were injected into the neck. In one case a remarkable improvement was produced by the first injection, and in another a complete cure was obtained by three daily injections. In none of them was treatment required beyond a week.—*Lancet*.

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

*When a change of address occurs please promptly notify the Publishers, THE J. E. BRYANT COMPANY (Limited), 58 Bay Street.*

TORONTO, JUNE 16, 1891.

### ONTARIO MEDICAL ASSOCIATION.

This vigorous association has certainly fallen into good hands. The executive machinery works admirably; and, as a consequence, but few ripples rise to the surface in the ordinary routine work of the various sessions of the annual meetings. This year furnishes no exception to the ordinary rule. Success in the highest degree attended the recent meeting. Things went so smoothly and evenly that the association appeared to run along with mathematical exactness without any guiding or directing hands. This was due to the perfect organization which exists, and the circumstances and untiring efforts of the officers and the members of the various committees, especially the committee on "papers and business," and the committee of arrangements.

Dr. Moorehouse, of London, ably represented the west in the president's chair. He and his chief lieutenants worked together in the most cordial way; under such circumstances the happy results, so satisfactory to all, are not to be wondered at. The chairman of the sections, especially Dr. Grasett in the surgical and Drs. Eakins and Meldrum in the medical sections, showed tact and ability which assisted in keeping up the interest in the various sessions. Among those who appeared to take great interest in the proceedings were a number of female doctors and medical students. We can't say that their presence created any very gushing enthusiasm, but no one showed any disposition to interfere with them in any way.

We were pleased at many of the discussions which took place. After all, the members don't

come to such meetings simply to hear papers read, they want to hear and engage in discussions—and if a little spice be added to the same, all the better. It has been found somewhat difficult, if not impossible, to get through the work in two days. Want of time prevented the completion of the programme, and also curtailed many discussions.

The profession of Toronto looked after the visitors very well. The plan of entertaining them at luncheon on the second day was a success. It brought all together in a pleasant way at a very reasonable cost. Our friends from the United States received a cordial welcome and did much to add to the literary character of the meeting. The next meeting will be held in Toronto under the presidency of Dr. R. A. Reeve.

#### THE ONTARIO MEDICAL COUNCIL.

The report of the committee appointed by the Council to consider proposed changes in the curriculum was presented at the recent meeting, and with some slight amendments, adopted by that body. The changes involved are so radical as to be somewhat startling, especially to those who were satisfied with the old order of things. The following is a brief statement of the most important features:

For matriculation they will require certificates of having passed the departmental university examination for matriculation in Arts, with Latin among the optional subjects compulsory, and the Science subjects in addition.

The course after matriculating will consist of five years, of which the student must attend four full winter sessions and one summer session. Half of the fifth year may be spent in the office of a physician, or in a hospital, at the student's option; but the other half must be spent in a hospital, or in a scientific laboratory, working at physiology or pathology. Arts' graduates, who have taken a Science course, will be allowed a year.

The Council will conduct three examinations:—A primary at the end of the second year, on subjects which have been taught in the first and second years; an intermediate at the end of the third (for Science graduates in Arts) or fourth year, on all the final subjects, which shall

be written and oral; a final at the end of the fifth year, on the practical subjects, which shall be oral only.

The number of purely didactic lectures have been reduced about one-half, and new requirements have been added for practical laboratory work.

The curriculum, as amended, is much like the latest curriculum adopted by the Medical Council of Great Britain. It probably demands more in certain directions, but especially in the requirements for matriculation. The leaving examination of the Education Department, as it is modified by the Council, will require a fair knowledge of chemistry, physics, comparative anatomy, and botany, before the student can enter upon his regular medical course.

Altogether the standard, according to the new requirements for a license to practise in Ontario, will probably be higher than that of any other country in the world. We will not undertake, in this issue, to discuss the question; but will simply offer our congratulations to the committee for the thorough manner in which they investigated the whole subject, and for the very able and complete report which they presented.

#### HIGHER MEDICAL EDUCATION IN PHILADELPHIA.

At the meeting of the Board of Trustees of the University of Pennsylvania, held May 21st. Dr. Pepper made an offer of \$50,000 towards an endowment fund of \$250,000, and of \$1000 annually towards a guarantee fund of \$20,000 annually, for five years, conditioned upon the establishment of an obligatory graded four-year course of medical study. This was accompanied by a communication from the medical faculty, pledging themselves to carry out this proposal, and to enter upon the four-year course in September, 1893. It was also reported that the members of the medical faculty had themselves subscribed \$10,000 annually for five years to the endowment fund. The Board of Trustees expressed warm approval of the proposed advance in medical education, but postponed their assent until the success of both funds had been demonstrated.

The fine Laboratory of Hygiene, built by Henry C. Lea, Esq., will, it is expected, be



opened in February, 1892. We must congratulate the University of Pennsylvania upon its decision to establish a four-year course; but, at the same time, it seems strange to us in Ontario, where a four-year course has been required for a long time, that such decision was not reached long ago.

### ECTOPIC GESTATION.

A very interesting contribution to our knowledge of ectopic gestation was given by Dr. Formad, of Philadelphia, at the recent meeting of the American Medical Association. In 3500 *post-mortem* examinations he had found thirty-five cases of ectopic pregnancy. The women were multipara between the ages of 20 and 40; generally conscious of pregnancy; chronic inflammation of tubes present in all cases. Three were interstitial; one was ovarian; thirty-one had ruptured. The amount of blood found in the abdomen varied from a pint to two gallons. Pregnancy in all cases early, between the first and third month. He considers ruptured ectopic gestation to be the only cause of hæmatocele.

### COUNCIL EXAMINING BOARD.

The deliberations and discussions on the committee's report on the medical curriculum occupied so much time that comparatively little interest was taken in other matters. The Education Committee did not recommend many changes in the Examining Board. Dr. R. Hearn will replace Dr. Emory as examiner in sanitary science, and Dr. G. A. Peters was added to the Board in consequence of a request from Dr. Saunders for assistance. Dr. Peters will probably examine in therapeutics and pathology.

### BURLINGTON AND HOME CONTEST.

At the recent contest in this division, Dr. George Shaw was declared elected by a majority of four. Dr. Thomas Miller, his opponent, entered a protest, and a recount was made by the proper committee. According to the decision of this committee (which is practically final), Dr. Miller was declared elected by a majority of two.

### LONDON LETTER.

INFLUENZA AGAIN—DEATH OF MADAME BLAVATSKY—DEGREE FOR LONDON STUDENTS—EDINBURGH UNIVERSITY—TRICUSPID MURMURS AND RIGHT-SIDED DILATATION—PROF. GAIRDNER ON NEW REMEDIES—BRITISH MEDICAL ASSOCIATION.

The influenza epidemic has shown a large increase during the last week, and fatal cases, chiefly from pneumonia, are reported both in London and in the provinces. Sheffield appears to have suffered severely, for the latest weekly return shows out of 458 deaths from all causes no less than 112 due to influenza. In Birmingham Mr. Bartleet, a well-known surgeon, president of the surgical section at the last meeting of the British Medical Association, died of this mysterious malady after a few days illness. The latest victim amongst the outside public has been Madame Blavatsky, famous as the founder and high priestess of the cult of theosophy. The work of the Manchester Ship Canal has actually been suspended for a time owing to an outbreak of the affection, and one correspondent gives a graphic picture of able-bodied navvies prostrated and "almost crying with the pain." Yet notwithstanding the widespread and fatal nature of this recurrence of last year's attack, nothing like the same amount of interest and excitement has been aroused.

The ancient grievance of the London medical student in not being able to get a degree except under practically prohibitive conditions is to be at length removed. A preliminary draft of the new scheme has been published by the Senate of the University. As the proposal at present stands, it will meet with a good deal of opposition, but there is no doubt that in the long run the student will get what he wants, namely, a London degree on reasonable terms. To a great extent this looks like shutting the stable door after the steed has been stolen. Year after year students have been driven away to Durham, or to the Scotch or Irish Universities, in search of a degree, and have thereby detracted not a little from the fame and emolument of the London schools. No teaching centre has attracted more men than Edinburgh, which has built up a solid and systematic curriculum on the sure foundation of many years' experience. The new

University buildings are magnificently equipped especially for practical instruction in physiology, materia medica, pathology and public health. The London schools, therefore, will have an immense amount of lee-way to make up. It is indeed a sign of the times when the Senate of the London University bestirs itself in the direction of reform. The Council of the College of Surgeons handed in its approval of the new scheme without consulting the members and fellows, much to the disgust of the latter. An indignant protest has been made, which, however, will probably be ignored by the autocratic clique that stands at the head of affairs in Lincoln's Inn Fields.

Some points of physical diagnosis insisted on in the Edinburgh school seem worthy of attention. They say that the term "apex-beat" is very loosely applied, and it would often be more correct to state that pulsation is visible over this or that area of the chest. What we often call "apex-beat" is nothing of the kind in many cases, but is really the transmitted movement of the right ventricle. The common sign of right-sided dilatation is generally said to be epigastric pulsation, and that condition is undoubtedly present in many instances. Pulsation, however, in the third, fourth, and fifth spaces to the left of the sternum is held to be equally an evidence of dilatation, and also to be more frequently present. Then the teaching with regard to the tricuspid murmur has undergone a complete revolution, for instead of being regarded as of very rare occurrence, it is now held to be one of the commonest. The point of maximum intensity is said to be at the xiphoid cartilage, but this is by no means invariably the case. A typical tricuspid murmur is heard over the whole right heart, but probably attains its maximum intensity over the lower third or two-thirds of the sternum. That these observations must have an important bearing on physical diagnosis is evident. How, for instance, are murmurs of tricuspid and of mitral origin occurring together to be differentiated? To do so by means of the stethoscope is in many cases difficult or impossible, and the observer then has to depend on other evidence, such as the presence of pulmonary congestion or of pulsating veins.

The death struggles of the Koch craze have furnished, as one might expect, a suggestive

text both to public speakers and to the medical journals. One of the most striking of these productions has been the address of Professor Gairdner, at Belfast. Amongst other things, he insisted on the absolute necessity of individual observation as well as of scientific co-operation. With regard to the overwhelming number of new remedies, he quoted Dr. Whitla's words: "The indication is not at present for more new remedies, but for better and more precise knowledge of those that are already in our hands. It seems as if one of our very greatest barriers to progress is to be found in the ever-increasing number of new drugs which pours in upon us at a rate which prevents that thorough testing of their qualities and actions so necessary before the range of the new weapons can be accurately determined." The practice of huge American and English drug houses, who are flooding this country with ready-made remedies and cut-and-dry formulæ for every ache and symptom that flesh is heir to, is styled *the new polypharmacy* by the professor. He asks whether he ought to disregard the voice of the charmer and leave the new remedy severely alone. Or should he, on the other hand, strive to extract the greatest amount of benefit, or of credit, or of guineas, out of every new remedy in turn. A temperate review of the rise and progress of the tuberculin craze wound up: "From the wild rush at Christmas, and for some time thereafter, in search of immediate salvation at Berlin, to the contemplative, profoundly sceptical, and even pitiful state of discouragement in which we find ourselves in April, is a long stride in the way of 'reaction', and we can only hope that something of more or less permanent value may survive the discomfiture." Dr. Gairdner suggests the formation of a number of therapeutic committees dispersed all over the country, affiliated to a central authority.

The fifty-ninth annual meeting of the British Medical Association is announced to take place at Bournemouth during the last four days of July. This delightful watering-place on the south coast will afford a pleasant contrast to the scene of last year's meeting, for Birmingham is admittedly one of the very grimmest of our manufacturing towns. Bournemouth has grown immensely of late years, and there is no lack of hotels, as well as of boarding and lodging houses.

Still, the sudden incursion of an army of Association visitors can hardly fail to tax its resources to the utmost. A general invitation has been issued to members of the profession to exhibit objects of interest in the museum. Inventors and manufacturers can also make their entries at a trifling cost for groundspace. In either case application should be sent in to the secretary of the Museum Committee, Astolat, Bourne-mouth, before the 20th of June next.

D.W.

May 10th, 1891.

## Meeting of Medical Societies.

### THE ONTARIO MEDICAL ASSOCIATION.

Toronto, Wednesday morning,  
June 3rd, 1891.

The President, Dr. W. H. Moorhouse, of London, in the chair

The meeting was called to order, and Dr. Wishart, the secretary, read the minutes of the last annual meeting. The reports of several committees were presented, after which the ordinary work of the session was proceeded with.

Dr. Teskey, of Toronto, read a paper entitled,

#### THE CAUSES AND TREATMENT OF CARCINOMA.

He stated that there were two theories as to the cause of cancer, (1) considering it to be an abnormal growth of epithelium, the result of the action of an irritant; (2) that it is due to a special microbe.

The effect of irritation on living normal cells always tends to death primarily, although excessive growth comes on as a sequel. This law is not followed in the development of a carcinoma, where we find pathological, supplanting physiological, processes. Prolonged irritation is sufficient to account for the occurrence of a carcinoma, as in the irritation of the lip in smokers, exemplified also in the development of carcinoma about the genitals, in chimney-sweeps' cancer of the scrotum, in the breast, etc. There is no reason to believe that cancer is hereditary; on the contrary, one's personal experience would lead one to conclude that, as a rule, there is no trace of hereditary tendency.

It is probable that the disease may manifest itself primarily at some distance from the point irritated. This is illustrated in the two following cases. Case 1. A primary scirrhus tumor in the axilla, developing secondarily to irritation of the thumb-nail. A blow on the thumb-nail led to effusion of blood, which remained unabsorbed, and for three years the thumb remained in an unnatural condition. At the end of that time a lump appeared in the axilla; this was supposed to be an enlarged gland, consequent upon the absorption by the lymphatics of irritating material from the thumb. An operation was performed; the thumb-nail was scraped and some granulation tissue removed, but the lump in the axilla continued to increase in size, and one year after the scraping the patient died from an axillary scirrhus. Case 2. A lymphatic carcinoma developed in the submaxillary region. In the sublingual region there had been a slight abrasion in the mucous membrane, which appeared as a small ulcer, without hardness. Age may be looked upon as a predisposing cause.

One is led to conclude that the evidence put forward by scientific investigators goes to prove that foreign germs have nothing to do with the development of carcinoma. In considering the treatment, it is well to enquire whether or not nature makes any attempt to bring about a spontaneous cure. The cases which occasionally occur of the atrophic form of cancer, where the cells are replaced by cicatricial tissue, appear to answer the question in the affirmative. A case illustrating this condition occurred in a woman who consulted a medical man eight years ago. She was told that she had a mammary cancer, and a bad prognosis given. It was thought that without operation she might live six months; with operation life might be prolonged two years. She declined operation, and one year ago (seven years after the tumor first appeared) she presented herself with a large tumor of stony hardness in the right breast, a small ulcer on the surface, with a retracted nipple. During the past year the size of the tumor has altered little, the ulcer is somewhat smaller, and the patient is still living. There can be no doubt in this case as to the nature of the tumor: it was undoubtedly scirrhus cancer. As to the method of dealing with cancer by operation, one would conclude that if an abrasion, fissure, or ulcer, resists



treatment and will not heal after a reasonable time, say two months, free excision should be performed. If we have presented to us a cancerous tumor definitely localized, we should remove it and cut wide of the disease. In cases in which the glands are involved secondarily, it seems useless to attempt operation; the hæmorrhage occurring during the operation lessens the resisting powers of the patient, the disease progresses still more rapidly, and a fatal termination is hastened.

Dr. Wishart, of London, in discussing the subject, stated that the cancerous process seems clearly allied to chronic inflammation. The infective character of cancer and its tendency to spread through the lymphatics is also seen in inflammatory processes. In cancer, however, we have the occurrence of secondary growths, the tendency to a progressive increase in size of the original tumor, and the fact that it is not affected by palliative treatment; inflammation, on the other hand, exhibits a tendency to recover, and the organism does not lose control over the process. In a large majority of cancers a previous history of injury may be obtained; it has been stated that in most cases of cancer of the breast a history of an injury may be elicited if careful enquiry be made. One authority regards "high living" as a causative agent. It is noteworthy that in Africa, where the inhabitants live on simple food and take regular exercise, there is little or no cancer. Heredity seems to little influence; the whole human race would have probably be affected by this time if the disease were hereditary. In treating cancer the whole disease must be removed, if the tumor be accessible for operation. All suspicious cases should be treated on the same lines when we eliminate all other possibilities in making our diagnosis. If we excise a cancer of the breast, it is always well to remove the axillary glands in every case.

Dr. Groves, of Fergus, stated that although heredity must not be looked upon as a cause, yet there is apparently transmitted in some families a weakness in the resisting power of the individual. Irritation alone is not sufficient; parts of the body most exposed are protected, e.g., the palms of the hands and the soles of the feet. Wherever we have complicated varieties of cell-growth, there we often have the development of cancer; for instance, at the point of

junction of squamous and cylindrical epithelium; at these situations we have a tendency to the development of what we call a hybrid growth. Again, where forms of epithelium meet, morphologically similar but differing in function, at such points the hybrid forms are apt to develop; this is found at the junction of skin and mucous membrane. We must have a peculiar character of cell formation, plus the application of an irritant, to produce a cancer. Inflammation may be looked upon as a cause simply as far as it tends to increased cell-growth, but it is not a specific cause; it may in fact be looked upon as one of the irritants acting as an exciting cause. One cannot believe in a spontaneous cure; if a patient recovers who is supposed to be affected with cancer, then we must conclude that our diagnosis has been wrong. In removing a cancer, we must go beyond the visible limits; if the lymphatic glands are involved, we might as well let the patient die without operation, as we cannot save life.

Dr. Senn, of Chicago, considered that there was no subject so barren of scientific and practical interest as the one under consideration. It appears a disgrace to modern surgery that we know little more about the subject now than we did twenty years ago. In studying the histology of a carcinoma, we can hardly imagine any amount of irritation ever sufficient to produce a carcinoma; all evidence is against such a theory. The tendency is for laymen to trace all diseases to injury, and very frequently a tumor may not be noticed until some slight injury to the part calls the patient's attention to it, so that in such cases the tumor actually precedes the injury. Every microbic lesion presents, under the microscope, a picture in which we can trace the action of the microbe on pre-existing tissue, e.g., in a lymphatic gland the tubercle bacilli affects it so that the cells show evidence of histological changes, always observed in the immediate vicinity of the specific virus. In a carcinoma in incipency, we find a small group of cells, but these differ from surrounding structures, exhibiting from beginning an independent cell-growth, the cells never reaching maturity but showing a marked resistance to retrograde metamorphosis. It is in this connection that we term cancer a neoplasm. Trace a carcinoma from one centre and we find it infiltrates the surrounding tissues,

and the normal cells in the neighborhood play a passive part. There never has been demonstrated the source from which these neoplastic cells come, but we are inclined to think that Cohnheim's theory of embryonic rudiments will one day be proved to be correct. No degree of trauma or irritation will cause carcinoma if the necessary condition of the cells be absent. These carcinomata are hereditary in every instance; in fact, the individual must be born with the essential cause, *i.e.*, the embryonal cells. An individual may go through life with such without developing cancer because the exciting cause has not presented itself.

In the treatment, we must operate early and thoroughly. A cancer of the breast should be treated by removal of the entire mamma and by careful dissection of the axillary lymphatic glands also. The idea that cancer tends to a spontaneous cure must not be entertained for a moment; nature may for a time set up a connective tissue barrier to prevent its growth, but we have yet to hear of a single case which has undergone spontaneous cure. Virchow has shown that this theory of atrophic carcinoma is a most deceptive one; the tumor goes on growing at the periphery, where it does not meet with the mechanical obstacles that it does in the centre.

Dr. Teskey, in reply, stated that he had no doubt cancer was the result of the action of an irritant. High living does not appear to be a cause, as evidenced by hospital practice. The case quoted as atrophic cancer was beyond doubt a carcinoma. The palms of the hands and soles of the feet, although exposed to irritation, are protected by a thick coating of epithelium.

Dr. Oldright then exhibited a patient, and presented a specimen illustrating treatment by

#### SENN'S DECALCIFIED BONE FILLING.

The treatment was not a complete success in this case, as the wound did not heal by first intention, but this fact afforded an opportunity for observing the process of granulation tissue growing into and incorporating itself with the decalcified bone. The patient was a young man, nineteen years of age, a cattle drover. In March, 1890, he slipped and hurt his leg; there was apparently no fracture; he was sent to Toronto be-

cause of persistent hardness in the limb; the leg was kept at rest, an evaporating lotion applied, and a cold coil. In the autumn dead bone was found, and in January, 1891, an operation for its removal was performed. A large amount of bone was removed from the tibia. Considerable difficulty was experienced in its removal, as the sequestra were covered by a shell of dense bone; the operation lasted five hours. The large cavity left was rendered aseptic; after removing all unhealthy tissue a twelve per cent. solution of chloride of zinc was used to swab out the cavity, followed by perchloride of mercury solution, 1-500. Bone chips were cut into strips and packed into the cavity, after first being dusted with iodoform. The edges of the wound were then brought together by suture. Esmarch's bloodless method was employed in operating.

The bone chips were prepared from ox tibia, cut in pieces two inches long, placed in hydrochloric acid to decalcify. The acid is removed by washing in caustic potash, and subsequently the chips are preserved in 1-500 bichloride of mercury solution in alcohol. When about to use the chips, they are first washed in a weaker solution of perchloride, and then powdered with iodoform. This wound did not heal by first intention, but undoubtedly the process of reproduction of new bone in the cavity was much facilitated.

Dr. Senn considered this a case of partial failure; either the bone cavity was not rendered thoroughly aseptic, or the parts were in such a diseased condition that reparative processes were slow to occur. These bone chips are not supposed to replace bone directly, but it is merely a temporary absorbable tampon; further, they are *packed* in and arrest hemorrhage, and they act efficiently as an antiseptic for two or three weeks. The bone chips are entirely removed in the course of three or four weeks, the length of time depending upon the absorbability of the material used, and the powers of absorption of the surrounding tissues. The process of healing in bone is always tedious because there is no support for the growth of blood vessels; if, however, we supply a temporary scaffolding, living healthy bone will grow there. In operating in any case of necrosis or bone inflammation, the operation must be very thorough; we must expose freely, use a chisel; the trephine is useless, and may be

looked upon as an obsolete instrument in bone surgery. When the whole cavity is exposed, sequestra are removed, and the inner lining of the cavity left is scraped away with a sharp spoon, or round chisel, until all affected tissue is removed. Now, prepare the cavity for packing by chemically disinfecting it with chloride of zinc solution, or better, peroxide of hydrogen; the latter permeates more deeply. Then irrigate with perchloride of mercury; dust with iodoform; then pack in the chips (these chips are now kept stored in ethereal solution of iodoform, five per cent., ready for use). After the packing, the periosteum is stitched over it, because we must see that the chips are surrounded on all sides with healthy living tissue. Failure in Dr. Oldright's case was probably due to the unsatisfactory condition of the surrounding soft parts. In cases in which we obtain an antiseptic condition of the parts, we find that granulation tissue is soon substituted for the chips. Many erroneously believe that the chips are used for the permanent replacement of the new bone, but this is not so; they are replaced by granulation tissue, first of all, an early definitive healing takes place, and eventually regeneration of the entire bone is brought about.

#### AFTERNOON SESSION.

The President, Dr. Moorhouse, read the annual presidential address, an abstract of which is published in the columns of THE CANADIAN PRACTITIONER. He was followed by Dr. Senn, who read a paper on the surgical treatment of intussusception. This paper will also appear in full in these columns.

The Association then divided into sections.

#### MEDICAL SECTION.

Dr. Eakins, of Belleville, was elected president; Dr. Thistle, of Toronto, secretary.

Dr. J. E. Graham, of Toronto, read a paper on

#### THE DIAGNOSIS OF TYPHOID FEVER.

In no other disease is a correct diagnosis so important as in typhoid fever, for in no other disease is the proper management of the patient so important and so productive of good. Tubercular meningitis in children, and acute tuberculosis, are often mistaken for typhoid. Attention to the pulse, the nervous phenomena, and

the condition of the abdomen, should render this mistake rare. In typhoid the delirium does not deepen into coma, the headache disappears, and there is an interval between its disappearance and the rise of temperature. He cited the case of a bank clerk who, during his office hours, was so drowsy, and made such mistakes, that he was sent home. On his way home he consulted a physician; stopping in at the druggists, he fell asleep while waiting for his prescription to be made up. For some days his temperature was normal, his pulse, 60. He would sleep twenty-two hours out of the twenty-four, and when awake he had spells of delirium. Dr. Workman, who saw him with Dr. Graham, was inclined to think the case one of those rare cases of narcolepsy. Later on in the disease there were tonic spasms, and difficulty in deglutition; when asked a question, as much as three-quarters of an hour might elapse before an answer was given. There was, during life, neither roseola nor enlargement of spleen. Autopsy showed the liver normal, spleen a little enlarged, characteristic typhoid intestinal lesions, and an increase of the ventricular fluid.

Typhoid occasionally wears a renal mask. A case was cited in which the patient came suffering with a seeming acute nephritis, was stupid and irritable, and had albumen in the urine. On the third day the tympanites, roseola, and enlargement of the spleen manifested themselves, and the case thereafter ran a typical course. In such a case the customary purgative treatment of nephritis might prove very harmful.

Typhoid occasionally has a pneumonic mask. A case was cited commencing with lobar pneumonia, the pulmonary symptoms quickly subsiding, but the temperature remaining elevated, and the case running the usual typhoid course.

It is sometimes difficult to distinguish malarial remittent from typhoid fever. An examination of the blood, during the paroxysm, with a very high power microscope, would reveal the presence of the plasmodium malarie.

A case was cited in which an autopsy had shown cirrhosis of the liver and an abscess of one of the mesenteric glands; yet during life there had been the typhoid facies, pyrexia, enlargement of the spleen, roseola, and tympanites.

Pyæmia was often difficult to distinguish from typhoid. The presence of bacilli in the



blood, the use of Ehrlich's urine test would help in the diagnosis. The urine, or the blood from the roseola, might be examined for the typhoid bacilli. Puncture of the spleen of a typhoid patient to procure a sample of blood was not permissible, although it had been done by several German physicians.

In the discussion which followed, Dr. McPhedran referred to the abortive cases in which Ehrlich's test failed. Tubercular meningitis in children he considered very difficult of distinction from typhoid. Fortunately typhoid in them is of such a character that a diagnosis is not absolutely essential.

Dr. Sheard asked how one would distinguish septicæmia, which had been to him the most difficult to differentiate. Acute tuberculosis might easily be taken for typhoid.

Dr. Graham replied that he had never been able to get the characteristic reaction from Ehrlich's test in septicæmia. In tuberculosis this test was useless, but examination of the sputum might clear up the case.

Dr. H. Arnott, London, read a paper entitled, "Is Alcohol a Stimulant?" and Dr. T. Millman, of Toronto, a paper on "Epileptic Insanity." Both of these papers will appear in THE CANADIAN PRACTITIONER.

Dr. R. W. Bruce-Smith, Seaforth, read a paper on

#### A NARROW PREPUCE AND PREPUTIAL ADHESIONS IN CHILDHOOD.

Dr. Smith narrated two cases occurring recently in his practice, in which convulsions were quite frequent, despite the use of bromides, etc. The children had apparently become chronic epileptics. After circumcision the fits disappeared completely. The necessity for careful examination of the genitals, in boys manifesting nervous symptoms, was emphasized by the speaker.

Dr. Howitt, of Guelph, opened the discussion, and related a case of irritation and convulsions becoming more frequent, until there was perhaps one fit a week. Bromides were given without affording any relief. The prepuce was long, contracted, and adherent. After circumcision the fits and other symptoms of irritation disappeared completely. In another case there were no convulsions, but the child, after a prolonged period of failing health, crying, and

peevishness, passed into a condition of semi-coma, so that the case resembled tubercular meningitis. The prepuce was dilated and smegma cleared out; recovery was complete and lasted for one year, when convulsions occurred. Circumcision was now performed, with complete and permanent relief from all the symptoms. In a third case there were symptoms of septic endocarditis, and a mitral regurgitant murmur was present. The prepuce was long and contracted; when the glans was cleared, ulceration was seen to have taken place. Circumcision was done in this case also, and was followed by a disappearance of the symptoms, the murmur only remaining. Dr. Howitt considered that in this case the ulcerations present beneath the prepuce originated the septic condition resulting in endocarditis.

#### SURGICAL SECTION.

Dr. Grasett was elected chairman, and Dr. Primrose, secretary.

Dr. H. Mynter, of Buffalo, read a paper entitled,

#### IS EARLY RESECTION OR CONSERVATIVE TREATMENT ADMISSIBLE IN COXITIS?

A better knowledge of the pathology of the disease has led to improved methods of operating. The tubercular disease begins, in the majority of cases, in the bone, and secondarily affects the joints and epiphyses; sometimes, but rarely, it begins in the synovial membrane. In early cases a focal process may be observed, and the majority of cases begin as an osteitis, and not as an arthritis. The head of the bone is frequently the starting-point; it may begin in the shaft of the bone and work its way up. Primary disease of the acetabulum is rare. We find a little focus lined with unhealthy granulations, detritus, and sometimes a sequestrum. Changes occur in the joint itself; the whole synovial membrane may be eventually changed into granulation tissue. The symptoms of coxitis may be insignificant until the synovial membrane is affected. Starting pains at night indicate implication of the bone in the neighborhood of the articular cartilages. There is an abnormal position of the limb; the cartilages become eroded and the bone is found in a condition of osteoporosis; the head becomes small from pressure; and the acetabulum becomes

deepened by the same process. In the case of a patient who was sick only two weeks, an abscess was opened on the side of the right femur; the abscess did not appear to be connected with the hip joint, but symptoms of coxitis subsequently manifested themselves, and a large abscess was found inside the pelvis. Chloroform was administered: it was supposed that the floor of the acetabulum had become perforated, and the head of the bone was consequently removed. The ligamentum teres had disappeared and the head was found rough and eroded. A perfect recovery with normal joint is rarely obtained without operation, and it is after years of suffering, during which the patient is subjected to a multitude of dangers by extension of the disease. An early operation is the only thing which can arrest the disease. Why wait for abscess? The pathogenic virus of tubercle is not pyogenic, and under favorable conditions will not give rise to an abscess. The results of conservative treatment are not reassuring. The decreased mortality with improved methods of operating render it necessary to consider this method in a different light from formerly. It has been suggested, in disease of the acetabulum, that the acetabulum should be excised, but it is difficult to get the entire disease removed. As regards the comparative results of conservative treatment and operative measures, we must remember that cases left late must be considered apart altogether from early cases, and those treated in hospitals with trained nurses from those treated at home. In the majority of cases an operation of excision performed early gives the best results.

Dr. G. A. Bingham, Toronto, then read a paper on

#### THE SURGERY OF TUBERCULOSIS.

The two forms of treatment, viz., expectant and operative, may be discussed. In the expectant form of treatment we insure rest for the part, constitutional treatment, and subdue local inflammation; the soil is by this means rendered unsuitable for the development of the virus. The soil appears to be more suitable for tubercular processes between the third and the tenth year; if the tubercle be kept in check until that period be past, then the individual is comparatively safe. The progress of an ordinary inflammatory process may determine the

production of tubercle, and thus we often find that trauma precedes the disease. Unhealthy surroundings also favor its production.

The excisionist looks upon tubercle as a malignant disease requiring removal. Entire removal precludes the generalization of the disease and shortens the period of suffering. Erosion is only of value where disease is confined to the synovial membrane or near the ends of bones. The non-operator is apt to consider that the quiescent tubercle is dead, whereas it is only sleeping. The early diagnosis of cases of tubercular disease is important. So long as the disease does not proceed unfavorably, rest is the chief thing. Caseation may, however, occur, and operation becomes necessary; the disease must be entirely eradicated, whatever method we may employ. We are led to conclude that in certain cases rest, constitutional and hygienic treatment, will prove efficient. If caseation has occurred, and the disease has extended beyond the articular ends of the bones, erosion should be done. If confined to the synovial membrane aspiration will suffice; and if the disease is very definitely localized, it may be removed by the sharp spoon. Early operative interference undoubtedly shortens the suffering.

Dr. Mynter considers arthrectomy to be the complete removal of the whole synovial membrane of the joint plus the local focus. In the knee the process is usually an extra-articular affection, whilst in the hip we usually have an intra-articular lesion. A boy, *æt.* 10, limped, and was treated conservatively; on coming to Dr. Mynter there was found, on examination, a very tender point on the internal condyle; this was operated on and a local tubercular focus was successfully removed. The boy recovered completely. Another similar case occurred in a child, *æt.* 2; a tubercular focus in the upper part of the tibia was diagnosed, the patient complaining of excessive pain on pressure at one point. The local focus was removed, and recovery took place. These cases lead one to conclude that we have a local process pure and simple to begin with, and points of tenderness should be sought for and their significance understood.

Dr. McFarlane stated that there was considerable dispute as to the starting point of the disease; as to whether it was in bone, cartilage,

or synovial membrane. In the hip it may begin in the ligamentum teres. It is very desirable to make an early diagnosis, but this is not always possible. A boy in the General Hospital at present is suffering from acute osteomyelitis; it began at the ankle; the tender and swollen part was cut down upon and diseased bone scraped out. Very shortly after a similar condition developed below the knee and was similarly treated. The child is improving; there was no joint implication in the case.

We can arrest tubercular disease by conservative treatment, and therefore one is not inclined to open the joint early. Complete excision is safer than erosion, because of less likelihood in the former of any diseased tissue being left behind.

Dr. B. E. McKenzie, Toronto, narrated the case of a small lad in whom he successfully removed a small tubercular focus from the head of the tibia. The joint trouble usually arises in the bone. True conservative treatment is that of rest for the part when the nidus is confined to the bone, rather than after the joint has become affected. Referring to a case mentioned by Dr. Mynter, he thought it unlikely that operation could be deemed necessary four weeks after the commencement of the tubercular inflammation. Fixation may be complete and at the same time the patient may be allowed to move about. Statements of cases dismissed as "cured" in two or three weeks are fallacious; they tend to the production of adduction, and not for two or three years can the patient be looked upon as *cured*. Very often the operator neglects the proper mechanical apparatus after operation, and therefore so many relapse-cases occur if not properly followed up.

Dr. Oldright has had cases in his practice of perfect recovery by rest without operation, and without recurrence after some years. The limb is more useful if no operative measures are resorted to.

Dr. Bingham stated, in reply, that there is considerable confusion in the minds of some as to the meaning of a "cure." A tubercular focus may become encapsuled and lie quiescent, but it is liable at any time to light up to activity.

Dr. Burt, of Paris, read a paper on "Short Notes on Injuries of the Skull, and Epithelioma of the Larynx."

Dr. Holmes, of Chatham, then read his paper on "Appendicitis."

These papers will appear in full in THE CANADIAN PRACTITIONER.

#### EVENING SESSION.

Dr. McPhedran read a paper on the

#### CARDIAC PHENOMENA OF RHEUMATISM.

The so-called cardiac complications are really an essential part of the disease. The ordinary view of rheumatism is that the joint changes, pyrexia, and perspiration, are the sole necessary phenomena; but all the other more unusual manifestations, such as tonsillitis, fibrous nodules, erythema nodosum, and heart affections, are also integral parts.

The heart affection may be the sole manifestation, or it may be combined with any or all of the classical rheumatic phenomena. The heart is affected oftener than any single joint, and any attack is liable to have a concomitant heart affection. As rheumatism is often so obscure in children, it would be well to examine the heart in all pyrexial attacks in children. In the adult there is a relation between the severity of the symptoms and the frequency of the heart affection. In young subjects the liability to the heart affection seems to diminish with increasing age, as shown by the following table:

|    |       |        |    |           |      |       |          |
|----|-------|--------|----|-----------|------|-------|----------|
| 1  | to 10 | years, | 83 | per cent. | have | heart | lesions. |
| 10 | "     | 20     | "  | 69        | "    | "     | "        |
| 20 | "     | 30     | "  | 51        | "    | "     | "        |
| 30 | "     | 40     | "  | 30        | "    | "     | "        |
| 40 | "     | 50     | "  | 21        | "    | "     | "        |

From this it appears that in infancy rheumatism always attacks the heart. Many of the seeming rheumatic affections of the joints in children are really due to septic infection; in other words, are cases of osteomyelitis.

It is difficult to say why the heart is chosen out as the point of attack. Anæmia may be the cause. This idea seems to be borne out by the frequent occurrence of rheumatism in young females who are very liable to anæmia. Endocarditis is the most common form, and the mitral valve is most often involved. In children the cardiac phenomena, at first mild, soon return and become fatal, the lesion increasing with each attack. The inflammatory process is circumscribed in the endocardium because of its want of vascularity. The mitral valve is most



often affected, because its central parts have a good blood supply. The aortic valve has not such a good vascular supply and is therefore more apt to escape. The cardiac murmur, according to Sibson, is not the sign of a commencing endocarditis, but occurs when the inflammation is passing off. The first sign of mitral obstruction is seeming reduplication of the first sound, heard only at the apex; of mitral incompetence, prolongation of first sound heard at apex. Murmurs occur earlier in rheumatism than in such diseases as typhoid. Pericarditis and myocarditis are often overlooked and misinterpreted; they occur most often in first attacks, severe attacks, and between the ages of fifteen and twenty-five years. Severe and fatal cases may occur without any symptoms. The immediate prognosis of the cardiac lesion is favorable, because in young children in whom the lesion is most apt to occur compensation is more quickly established and is more complete, therefore it is but seldom that cyanosis or dropsy are seen. In older patients the prognosis depends on the extent of the sclerotic and atheromatous changes. In the well-to-do the prognosis is better, because they are subject to less exposure and to less violent exertion.

Unfortunately, there is no treatment by which we can prevent rheumatism; the great object should be to save the heart; this may be done by arresting the rheumatic process with alkalies or the salicylates, by promoting excretion in order to purify the blood, by good nourishment in the form of light liquid food, and by rest. Great caution should be observed in the use of alkalies in anæmic cases, for they, by increasing the anæmia, may cause the cardiac lesion. In such anæmic cases iron is preferable. Rest should be insisted on in children, particularly in boys.

Dr. Macallum, of London, said that the endocardium was subject to the same sclerotic changes as the aorta; these were seen chiefly at the valves, but might exist on any part of the endocardium. The myocardium might also be affected, but it is impossible to express an opinion as to its condition, save after microscopical examination. The dilatation of the heart was due, *not* to want of contractility, but of elasticity. Rheumatic patients should have special attention paid to the heart, owing to the round cell

infiltration and vascularisation of the endocardium. He believed that for a year after convalescence the patient should be put on a course of alkalies, iodide of potash, and iron; the iodide of potash given for the same reason as in aneurism.

Dr. Sheard, of Toronto, did *not* think that second attacks of rheumatism were more likely than primary ones to produce cardiac lesions. A slight swelling, a tumefaction, as it were, of the valves, he considered the real cause of the first appearance of the cardiac murmur. Each recurring attack increased the deposition on the valves. He did not agree with the reader of the paper in believing that pericarditis was often overlooked. He had seldom seen it *post mortem*; it was easily diagnosed, and hence he was led to believe it of rare occurrence in rheumatism. Endocarditis was the lesion nearly always present. Præcordial distress might be the only sign of it—might occur even before a murmur was to be heard. The heart was best treated by rest. Iron is useless in the anæmia of endocarditis unless the patient was enjoying perfect rest. He believed this to be true of the use of iron in all cases of anæmia, due to any cause whatsoever. Time and again he had seen this in anæmic girls. He preferred salicylates to the alkalies. He would use alkalies for twelve months after the attack.

Dr. McPhedran, replying, said that he failed to see the similarity of argument for the use of potassium iodide in aneurism and in rheumatism. Dr. Macallum, no doubt, thought that it would act as an alterative, removing the cell infiltration. He objected strongly to the iodide in any event, for it tended to produce anæmia, and this was the great thing to avoid. The tumefaction, aduced as a cause of the murmur, he did not consider a sufficient cause, nor did he believe it such an easy matter to detect the cardiac lesion, endocardial or pericardial, in the first attack. His experience, substantiated by *post mortem* evidence, was that pericarditis occurred more generally than was thought to be the case. Time and again in hospital practice he had been chagrined to find, on *post mortem*, well-marked pericarditis, which had not been diagnosed during life. He had not been alone in this, for his colleagues had equally often met the same fate. Præcordial distress, insisted on as a symp-

tom of simple endocarditis, had, in his opinion, no such significance. Every practitioner knew that when a patient came complaining of præcordial distress, the chances were that the stomach, not the heart, was diseased. He wished again to emphatically protest against the protracted use of iodides, alkalies, and salicylates, on account of the anæmia produced by them.

(To be continued.)

## Obituary.

FORDYCE BARKER, M.D., LL.D.—America has lost one of her best and noblest physicians by the death of Dr. Fordyce Barker, on Saturday, May 30th, from apoplexy, after an illness of two days. He was born in Maine, in May, 1818, and was therefore seventy-three years of age. He studied in Edinburgh and Paris for some time after graduating in his own country, and on his return commenced to practise in Norwich, Conn. In 1850 he went to New York, where he resided for the remainder of his life. He was well-known as an obstetrician, and his book on "Puerperal Diseases" has been read by physicians in all parts of the world.

## Personal.

DR. J. E. BOWMAN (Tor. '89.) has been appointed medical superintendent of the Long Island Home for the care and treatment of mental and nervous diseases. The home is Amityville, Long Island, on Great South Bay.

DR. BRETT, of Bannf, was in Toronto during the second week in June.

DR. J. S. GRAY, of Winnipeg, was in Toronto June 10 and 11, attending a meeting of the Canadian Order of Foresters, of which he is a prominent member.

DR. GEORGE M. GOULD, of Philadelphia, has been appointed editor of the *Medical News*.

SIR HENRY THOMPSON, of London, England, was recently indisposed, and his condition caused considerable anxiety among his friends. We are pleased to learn that he is now quite well.

DR. P. H. BRYCE, of Toronto, described the best methods of handling milk on dairy farms, at the recent meeting of the American Medical Association.

## Births, Marriages, and Deaths.

### BIRTHS.

BAINES.—At 194 Simcoe Street, on Friday, May 9th, the wife of Dr. Allen Baines, of a son.

FREEMAN.—At Walkerton, on Friday, May 15th, the wife of W. F. Freeman, M.D., of a daughter.

WALLACE.—On the 17th May, at 166 George Street, the wife of Dr. Wallace, of a son.

### MARRIAGES.

BUCKLAND-BURDETT.—In San Francisco, April 29th, Emma, eldest daughter of Robert Burdett, Collingwood, to Owen Buckland, M.D., of San Francisco.

McMAHON-THOMPSON.—On Tuesday, June 2, at Toronto, Dr. McMahon to Miss Theresa Thompson.

### DEATHS.

WAGNER.—On the 27th May, at 21 Gerrard Street East, Percy C., fourth son of Dr. W. J. Wagner, aged 4½ years.

## Miscellaneous.

The next meeting of the American Association of Obstetricians and Gynæcologists will be held in the city of New York, Thursday, Friday, and Saturday, Sept. 17, 18, 19, 1891. Drs. Adam Wright (President) and James F. W. Ross are at present the only members from Canada, but it is expected that several Canadians will be admitted to membership at the next meeting.

THE fifty-ninth annual meeting of the British Medical Association will be held at Bourne-mouth, July 28 to 31 inclusive, with Dr. W. F. Wade as President. Among the addresses delivered will be that in Medicine, by Dr. Thomas Lauder Brunton, lecturer on Materia Medica and Therapeutics at St. Bartholomew's Hospital, and that in Surgery, by Dr. John Chiene, Professor of Surgery at the University of Edinburgh.

THE annual meeting of the Manitoba Medical Association was held at Winnipeg on June 11th and 12th.

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Original Communications.

EXCISION OF THE SHOULDER AND  
ELBOW JOINTS OF THE SAME  
ARM FOR TRAUMATISM.\*

BY ARCHIEALD E. MALLOCH, M.D.

*Mr. Chairman and Gentlemen:*

I have brought the following case before you on account of the rarity of an injury requiring excision of the shoulder and elbow joints of the same arm, and as an example of how useful a limb may be obtained after such extensive mutilation. The case reported to the Medico-Chirurgical Society of London, in 1872, by Wm. MacCormac, F.R.C.S. (now Sir William MacCormac), and published in Vol. 55 of its transactions, is the only similar one I have found on record.

D— S—, male, æt. 12, well-developed, was admitted into the Hamilton City Hospital on the 31st July, 1890, for a railway injury to the shoulder and elbow joints. He was seen by me two hours after his admission, when I found him suffering slightly from shock, with the limb, which had been thoroughly cleansed, bound up in towels soaked with 1 to 100 corrosive sublimate solution. Under chloroform it was found that the elbow was extensively injured, several pieces of loose bone being felt, and that a wound on its posterior aspect connected with the joint. The olecranon and all the condyloid surface of the humerus, and a portion of the shaft of that bone, were removed

in seven pieces, which were lying almost loose in the soft tissues; this portion of the limb was then wrapped in an antiseptic towel and attention directed to the other injury.

The shoulder and pectoral regions were much swollen, and fluctuation could be felt over a considerable area; the direction of the shaft of the humerus was to the inner side of the coracoid process, and below the clavicle its sharp, rough end could be felt; a hard, round mass could be indistinctly felt under the acromion. All our efforts to bring down the humerus failed. The patient then showed such signs of depression that I decided to wait before making further attempts to dislodge the humerus. The radial and ulnar arteries were found beating at the wrist. A drainage tube was passed into the centre of the elbow space and the wound closed and dressed antiseptically; with the forearm semiflexed, the elbow was supported by two narrow, thick pads of gauze reaching well up on the humerus and down to the tips of the fingers, and kept in position by a bandage. A reversed wedge-shaped pad of gauze was placed in the axilla, and the arm bound to the side. It would be too tedious to note the subsequent dressings to the elbow; at no time did the lad suffer from it, and antiseptically it was a success. Passive motion was made for the first time on the 19th of August. On August 5th it was found that the hand, forearm and arm were swollen; the elbow was exposed and found free from heat and redness, and not more swollen than the other parts of the limb; the fluctuat-

\* A paper read before the Ontario Medical Association.



ing swelling of the shoulder and pectoral regions is more marked and presents a soft spot in its centre.

August 7th: Under chloroform this soft spot was opened into by a free incision and a quantity of dark fluid blood let out; the bare, rough upper end of the shaft was then felt, and posterior to it, and lying in a direction at right angles, another piece of bone. Extension on the humerus, assisted by all the pressure I could make from above through the wound with fingers, instruments failed to move the bones; the wound was then enlarged downwards, as if for excision, and the head of the humerus exposed. Further attempts at reduction having failed, the head of the humerus, which was fractured transversely at the surgical neck, was removed; the shaft was then brought into line; a posterior opening was then made for drainage and the wound stitched and dressed. Outside the dressing a large pad, hung from the neck, was placed in the axilla and the arm bound to the side. The shoulder wound did very well on the whole, though we failed to keep it perfectly aseptic. Some days subsequent to the operation the slight discharge which came from the posterior drainage tube smelt, and the protective was discolored; in all probability the sling of the pad in the axilla had worked under the dressings.

Sept. 20th: He moves the arm slightly, and can flex the forearm; passive motion to be continued daily.

Oct. 1st: A small fluctuating spot at the extremity of the elbow; scar incised and a drop or two of pus let out.

Nov. 21st: On my return from a three weeks' holiday, I found him in bed with a side splint controlling the elbow, and learnt that when playing on the stairs he had fallen and wrenched the elbow. Flexion and extension, with pronation and supination, could be fully made, but the power was feeble. He uses the deltoid much better than when last examined. There is still a little oozing of purulent matter from the sinus at the lower angle of the shoulder wound. Under chloroform the shoulder wound was opened, the shaft of the humerus exposed, and an inch of soft reddish bone removed. From the medullary canal thus opened a loose piece of necrosed bone three-quarters of

an inch in length was extracted. The medullary tissue was soft and red, and mixed with small particles of necrosed bone, which gave a gritty sensation to the scoop with which the canal for three inches was cleared out. After antiseptic flushing and filling the medullary canal with a 10 per cent. solution of iodoform in glycerine, a drainage tube was passed down the canal. The wound was dressed in the ordinary way.

The drainage tube was shortened from time to time as the discharge diminished.

Dec. 26th: Small piece of loose bone removed through the elbow sinus.

Jan. 21st, 1891: Two small loose pieces of bone were removed from the shoulder.

Feb. 10th: Discharged. A small sinus exists at lower angle of shoulder wound. The elbow is solidly healed.

During his six months residence in the hospital, the highest temperature recorded at night was 101° F., thirty hours after the shoulder excision. On only two occasions subsequent to this does the chart show an evening temperature of 100° F., and one of these corresponds with the date of his fall.

March 16th: Seen at office. There has been no discharge from the shoulder for three weeks. The right humerus is two and a half inches shorter than the left.

May 24th: I found that the old sinus at the elbow had reopened, the probe showing bare bone at the lower extremity of humerus. As notice had been given to the society of my desire to report the case, I determined to do so notwithstanding.

So far from the limb being flail-like and useless, as was predicted, the boy has a very useful member in his right arm. He dresses and undresses himself, cuts his meat, and has been working for some weeks in the cotton mill at his old job and earning the same wages. The shoulder motion is not so great as I would have liked, but improvement in this respect is still going on. Abduction is limited to an angle of 30° to 35° F. The forward and backward movements are good.

He can completely flex and extend the forearm, and pronation and supination are perfect, as was to be expected. The attempt to flex the forearm gives a pull of 16 lbs. on the spring

balance with the excised, and 22 lbs. with the sound arm; or, roughly speaking, the excised arm in flexion is a quarter weaker than the other.

In extending the forearm from the semiflexed position a pull of  $7\frac{1}{2}$  lbs. is indicated with the excised and 20 lbs. with the sound arm; or, roughly, in extension the excised arm is two-thirds weaker than the sound one. A comparison in excisions of the elbow in this way gives. I think, a better idea of the result obtained than by reporting it as "a useful limb," "almost as useful as ever," "very useful," etc., and would enable one to note the improvement from month to month after active motion has commenced.

### SHORT NOTES ON CARCINOMA OF THE LARYNX AND INJURIES OF THE SKULL.\*

BY W. BURT, M.D., PARIS, ONT.

#### CARCINOMA OF THE LARYNX.

*Mr. President and Gentlemen:*

In reporting to you a case of this disease, I do so more especially for the purpose of the statistician. I intended to record the case sooner, but let the opportunity go by. I do not know that there is anything of importance to the surgeon in the general history of the case. The symptoms at first were those of a chronic catarrhal laryngitis, with a suspicious carcinomatous formation on eighth vocal chord. These were in progress about a year before spasmodic symptoms developed. Tracheotomy was performed November 2nd, 1885. Death took place Nov. 20th, 1886. A short time before operating our patient had been examined by specialists. The diagnosis was confirmed and tracheotomy impressed upon him. The operation would have been performed somewhat earlier but for our patient procrastinating. A severe spasm setting in, from which he thought he would not recover, caused him to procrastinate no longer. My patient was a robust-looking man, and it is little to be wondered at that one in this full vigor of manhood, with but little embarrassment of the breathing and free from anything like a severe spasm, should,

under the circumstances, postpone an operation that would certainly remind him of a not far distant fatal issue. At this crisis he decided to give himself the benefit of the palliative treatment of tracheotomy. Laryngectomy was carefully explained to him—as well as I could do so at that time—but he banished all thought of it. In reference to the operation of laryngectomy, my own views, in the light of the literature of the subject, have not changed. I certainly have not favored the operation. In this case I left my patient to choose for himself, to sum up for himself, presenting him simply with the record of the operation so far as I could up to that time. Tracheotomy was performed in this case at the last moment, and, from a surgeon's point of view, should have been performed earlier. At the time of the operation our patient, as mentioned, was in the full vigor of manhood, and but little prepared, physically, to leave this world. During his post-tracheotomy life, although he did his speaking mostly by slate, being scarcely able to utter any audible sounds, his life was fairly comfortable. He would ride to town, a distance of seven miles, with a considerable degree of pleasure. During the last two months, however, he became greatly emaciated. His expectoration was distressing, and his latter days have no redeeming feature except the presence of kind friends. He was prepared to leave this world physically. The danger of impending suffocation being removed, his system was left to the dire disease.

Whether excision of the larynx, with its record of deaths within the first few weeks, with its good results comparatively in a few cases, will take the place of the palliative treatment of tracheotomy, with immediate relief to all, and as a rule for some months at least, is a question which will no doubt at some distant day be answered. It is no doubt a most fascinating, if not almost a miraculous, thing for the surgeon to see one who, if left to himself or to a tracheotomy, can live but a short time, have all danger well-nigh removed and be able to speak intelligibly for years with an artificial larynx. But the question is: Which will give us, upon the whole, the largest sum of human comfort?

#### INJURIES OF THE SKULL.

I wish to present you simply with the outlines of three cases of injuries to the skull, and

\* A paper read before the Ontario Medical Association, June, 1891.

direct your attention to the points of practical interest. I am sure the details would not interest you, and I am not sure that any new facts will be presented, but a few points in connection with them may be of interest to those who are workers in brain surgery.

Case 1: E. B., æt. 17. On the evening of Feb. 14th, 1888, I found him in bed in a comatose condition, with his head and face covered with blood and bits of hay. His mother stated that he had walked, about 8 o'clock, into the house alone, went up stairs and threw himself upon the bed. She spoke to him, but he would only utter the names of two persons—his brother and a young man belonging to the town. His mother stated that he left home in the morning to go shooting. As one of the names mentioned was that of a farmer about a mile distant, the first impression was that his gun had burst and injured him, and that he had lain by some haystacks which were near the barns. The auricle of the right ear was lacerated, and a compound comminuted depressed fracture existed just in front of it, involving the squamous portion of the temporal just above its junction with the petrous. The wound was filled with seeds, bits of hay, and clots. Nothing of a sensible nature could be gotten from him. When disturbed he would say, "Let me sleep." Dr. Sutherland came to my assistance and anesthetized our patient. The wound was thoroughly cleansed, the depressed fragments elevated, and those becoming loose were removed. The membranes were found torn, the brain lacerated, and, when the operation was completed, bone to the extent of a fifty-cent piece was removed, exposing the middle meningeal artery. The wound was put in a condition that no injury was likely to accrue from the remaining portions. The projecting spicula were left, thinking they would help to fill in the opening. The result was satisfactory, the merest scale coming away before the healing of the wound. The wound was washed out, a drainage tube inserted, and the opening closed and dressed antiseptically. Before finally dressing the wound, however, the whole head was carefully examined and a large swelling detected in the left temporo-parietal region, and an open wound a little farther back. This swelling was laid open, the clot turned out, and the wound well washed.

The bone was found bare to a considerable extent, and a bevelled depression nearly three inches in extent was quite apparent, but not deep enough, I thought, to warrant interference, considering his youth and the free opening on the opposite side. The wound was well cleansed and dressed antiseptically, including a drainage tube. It was the presence of this left wound that caused me to think the lad had met with foul play, and I at once sent for a policeman, whom I acquainted with the facts and my suspicions. He set to work and next day got on the track of the assassin, who had fled to the States. It afterwards appeared that the boy had been hammered to death, as it was no doubt thought, about 11 a.m., in a hay loft. He remained there until about 8 in the evening, when, consciousness returning, he got down from the loft, crossed the street to his home, and went upstairs to bed as before stated. I will not trouble you further with this case than to state that he slowly recovered his senses, it being three weeks before he was at all manageable. The wounds were regularly dressed antiseptically. He came down stairs and took his meals on March 21st, and gave his evidence in court against his would-be destroyer on April 4th. The points of interest in this case were the readiness with which I was able, from the nature of the wounds, to put the police to work, the extent of the injuries, and the satisfactory recovery. He is now doing a man's work on the farm, carries his marks, but feels no ill effects from the injuries. In fact, it is thought that he is much wiser than before the accident. In this case a trephine was not used; a pair of bayonet root tooth forceps and a pair of scissors proved exceedingly satisfactory. I only took the precaution that every source of irritation was removed and thorough antisepsis carried out.

Case 2: M. J., æt. 4, a victim of a railway accident, Feb. 27th, 1889. This little girl, it was thought, was thrown forwards and struck her head in the left parietal region, at the upper and posterior part, on the corner of a stone. The result was a compound comminuted depressed fracture, with slight injuries to the membranes, one of the fragments being driven underneath the sound bone. A large movable fragment, the lower portion of the parietal, was



left in place. Four fragments were removed, all sources of irritation taken away, and the wound dressed antiseptically. Contrary to my expectation, the wound was long in healing, not closing until about the middle of June, on account of necrosis of some projections of apparently sound bone. It would, perhaps, have been better to have removed these projections at first, but the readiness with which they helped to cover in the vacant space in the case of No. 1 induced me to leave them here. The large loose fragment may, however, have been the chief cause of the necrosis. The child was unconscious at the first a very short time, and no seriousness at any time presented itself.

Case 3: E. S., æt. 4, was injured July 3rd, 1889. The brother of this little girl had just left a horse and cultivator standing to go for a wrench, when she ran up behind the horse, drawing a tin box containing pebbles. The noise frightened the horse and caused it to kick the child, striking it high up on the forehead, on the left side, making a gash down to the bone two inches long. This happened about 11 a.m. Saw her about 2 p.m. Had three convulsions in the meantime, one lasting about an hour. I found a compound depressed fracture three-quarters of an inch in extent. A tuft of hair and bits of straw were fast between the depressed and sound bone as in a vice. The depressed portion had evidently been driven farther when the hair and straw were kicked in, and the depressed portion, returning, grasped the hair and straw. I chiselled away a portion of the sound bone the length of the depressed part, removed the hair, straw and dirt that were imprisoned, and elevated the depressed part. In this case the dura mater had been separated from the sound bone, so that the chiselling was a very easy matter, and the readiness with which it was accomplished, and the simplicity, removing just what was required, being able to view every stage, commended itself to me in preference to the trephine. I make mention of this case to show that for injuries of the skull the chisel would seem to take the place of the trephine. There is very little hammering required when operating on a child's skull with a good sharp chisel dipped in hot water. I feel that we are much less likely to injure parts we wish to avoid. I drained this case with carbolized silk, dressed

antiseptically, and the child made an uninterrupted recovery. The wound healed kindly without suppurating.

### A CASE OF RUPTURE OF A DEEP VEIN IN THE LEG.\*

BY GEO. A. PETERS, M.B., F.R.C.S. ENG.

The patient is a female, æt. 43. She has varicose veins in both legs. Some are superficial and large, others are small and "dendritic." She has suffered from sensations of fatigue and aching in the legs on walking or standing. While walking on the street one day she felt something give way suddenly in the calf of her leg. She does not recollect having stumbled at or before the accident. The pain and loss of power were so great that she had to be driven home. She states that nothing could be seen at the affected spot at the time.

April 25th. Four days after occurrence she came to see me. Found there was still some pain and stiffness with tenderness on deep pressure. The leg tired easily. Circumference at middle of leg increased  $\frac{3}{4}$  of an inch. There was no superficial œdema. There was an irregular patch of extravasated blood under the skin at inner and front part of leg about middle. This patch was about  $1\frac{1}{2} \times 2$  inches in extent. A similar patch, but darker in color, occupied the concavity of the arch of the foot and below inner ankle. There was no erosion of skin and no superficial tenderness at either of these points. These patches did not appear until the third day after the pain was felt, and they were growing slowly larger.

*Diagnosis:* Rupture of varicose vein in back of leg between superficial and deep layers of muscles, or possibly in one of the muscles. The extravasated blood had gradually made its way forward to the front of the leg, and also downward in the line of the tendons of the deep layer of muscles.

*Treatment:* Rest and elevation.

Boyer asserted many years ago that varicosities affected the superficial veins alone, and this misstatement, like so many others, was accepted as fact by subsequent authors without further investigation, until Verneuil in 1855 showed its

\*Reported at the Toronto Medical Society.

fallacy. This surgeon was able to show that varix is as often a disease of the deep as of the superficial veins, and that not infrequently superficial varicosities furnish an indication of the presence of deep ones. Verneuil indeed describes a plexus of veins between the superficial and deep muscles of the calf, which he believes to be more often the seat of varices than are the superficial vessels. He also claims, moreover, that the intra-muscular veins are sometimes varicose, and Callendar has shown that the six chief veins which pass from the soleus muscle alone have a united diameter of not less than one inch, though he is unable to sustain Verneuil's statement in regard to their becoming varicose. It would appear probable that varix commences most often at the points where the deep join the superficial veins, since at these points three forces meet: (1) The pressure of the superincumbent column of blood acting from above; (2) the resistance offered by the next valve below the point of entrance of the deep vein acting from below; and (3) the force with which the blood is driven by the contracting muscle from the deep to the superficial vein, acting at an angle to the first two forces.

The case is interesting from the fact that it seems to be unique. No doubt other cases have occurred, but they do not seem to have found their way into the annals of surgery, as I am unable to find any reports of cases. The hemorrhage in such a case probably continues until the extra- is equal to the intra-vascular pressure, when it will cease. The opening in the vein will soon heal—probably with obliteration of the vessel at that part, and the clot will be gradually absorbed. It is scarcely likely that, even if a large vein were ruptured, the results could ever be very serious. The consequences from the bursting of a vein are less serious than from the rupture of an artery of equal size, in proportion to the difference in blood-pressure in the two vessels. The subcutaneous rupture of a considerable sized artery may lead to interference by pressure with the venous circulation to such an extent that gangrene may result, but such a calamity could scarcely follow the bursting of even the largest vein. The symptoms are, however, sufficiently painful and alarming, but the prognosis is favorable and the treatment simple.

## Selections.

### RESTORATIVE TREATMENT OF VARICOSE VEINS.

BY WILLIAM TAYLOR, M.D., F.R.C.P. EDIN.

Eight years ago I had my second—and, I trust, final—attack of gout. I then realized to the fullest extent the accuracy of the description of that complaint given by an Edinburgh gentleman to his medical adviser: "At eleven last night I went to bed as hale and hearty as you are, doctor, and at two o'clock this morning I awoke with my foot in hell." Unfortunately my case presented an unusual aggravation, for both feet were affected. My left foot, although swollen and strained, was unable to accommodate the whole of the torturing elements, and the locked-out residue held an overflow meeting in my right, where, owing to the crush, the usual boundaries were again overstepped, and the heels encroached upon, in addition to the toes.

Fortunately my head was clear, and my sympathies perhaps brightened, for I thought of the many poor men the pain of whose single feet I had so often tried to alleviate; and as the phantom procession glided past, I endeavored to remember the applications which seemed to give most relief to the different individuals, and I determined to try them in turn on my own poor feet—a different one on each, so that I might the better judge of their comparative efficacy. On the third day my right foot was in heaven, but the left remained in the old place. However, I had discovered the remedy, and speedily applied it to the left foot, but, alas! it was vain. I had expected too much; and, forgetful of metastasis, I had attributed the cure to the wrong cause. The relief given to the right foot was simply the result of an adjournment of the fiendish meeting. My left foot remained obdurately insensible to the slightest alleviation from any or all of the anodynes employed. I shall therefore not enumerate them, for they are utterly useless. The complaint dragged its slow length along, and convalescence at last set in. My left foot regained its normal form and color and freedom from pain. One of the remedies applied to this foot was a fly blister, which was meant to relieve the pain in the heel, but did not. Some weeks afterwards the site of the blister

continued to be marked by a white patch, which, appearing in the midst of a mottled area of minute varicose veins, was somewhat conspicuous. I examined it carefully, but could not find any distended vein within it. Why not blister the remainder of the mottled area? I said to myself; and being very much at leisure, and utterly sleepless at any rate, I at once proceeded to do so. The blister rose, the mottling disappeared. I then continued the blistering process in the course of the internal saphen<sup>y</sup>, which had for twenty years and more been in a prominent and painful varicose condition. This vein also disappeared. The raised blue distorted outline was no longer visible.

I had, like others, frequently had occasion to notice a great improvement in the condition of a varicose vein after an attack of phlebitis; and bearing that in mind, I felt that my present procedure was something like producing an artificial phlebitis, both in its appearance and results. I also thought of the contraction which shrivels up cutaneous structures after burns, and I felt that I was making use of a modified kind of burning, which was followed by similar contractions beneath the skin, and that these formed a kind of subcutaneous vitalized bandage which served to keep the vein within its proper limits. No doubt this is in some measure what did happen, but how? What are the changes involved in the process? In order to find assistance in determining this, I exhibited my leg to an eminent anatomist and physiologist in Edinburgh, and to an equally eminent surgeon and pathologist in London, but neither of them would venture to give an explanation of the anatomical condition then existing. The surgeon's remark was characteristic, and is almost enough to reveal his identity: "I don't know what has taken place in that leg, because I have not yet dissected that vein." The treatment and its results are to me entirely new."

A correct theory seemed, therefore, hopeless, without a foundation of anatomical fact on which to build it; and as no opportunity of dissection presented itself, I had to wait for more light, and content myself with the reflection, that whereas I once suffered from varicose veins, these sufferings are now relieved.

Meantime, being satisfied as to the absolute safety of the treatment, I lost no opportunity of

giving my patients the benefit of it, and the results have been in every way satisfactory. This was peculiarly noticeable in aged persons, say of sixty and upwards, for they were, of course, the least promising class. In them the veins are more distended, thinner, and more relaxed than in the young, and the vitality of both the vessels and the neighboring textures correspondingly diminished. Yet in every case the treatment has been successful, so that it is well entitled to be considered as eminently *restorative*.

Before such a society as this I deem it unnecessary to enter into elaborate historical details regarding the various modes of treatment adopted for the cure of varicose veins. These are all familiar to you under the designations of Radical and Palliative. So far as I can see, the plan of blistering partakes of the merits of both without the danger of either.

The *Radical* treatment, which consists in the operation for obliteration, carries in its train such an array of misfortune as to entitle it to the designation, hazardous. It is often only partially successful in obliterating the vein, but when completely so it only results in a mutilation, for it removes an organ whose increased usefulness had in the first instance led to hypertrophy and distension of its walls. Its natural functions had been strained by overfeeding from the increased supplies yielded by the surface of the overworked muscles of the calf. Hence the greater frequency of varicosity in those who have to stand and lean forward over a counter or a wash-tub. The removal of the vein, therefore, without removal of the conditions which give rise to the disease is unscientific, for the deligation of the superficial vein throws increased work upon the deep-seated intermuscular veins, whose functions are already proportionately strained, and which are themselves often simultaneously involved in the primary diseased action.

The *Palliative* treatment is invariably represented by that most deceiving of all deceivers, the elastic stocking. In theory, it is good; in practice, it is bad. I speak from a prolonged personal experience, but this is not necessary to make its defects apparent. I had abandoned it long before I was cured, and had substituted a well-knitted, well-fitting woollen stocking, which was always clean, always comfortable, afforded a sufficient and consistent support, and did not



deceive me into a belief in security which was fallacious. I never encounter an elastic stocking without ordering its immediate removal. In hot days they are too tight, and irritate the skin; in cold days they are too slack, and pucker into unequal folds. If you walk much, they gravitate towards the ankle and become irregularly hardened with perspiration. If you walk little, the ankle swells and the stocking becomes an obstruction to the circulation. This all applies to new, well-fitting stockings. What shall we say of old ones?

I have made use of the word *restorative* in preference to the term *palliative*; and although I have assumed that what takes place is the formation of crossing bands of connective tissue over the vein, constituting a subcutaneous binder, I do not by any means think that this is all—for if so, the analogy with phlebitis would not be complete. There is good reason to suppose that the coats of the veins themselves participate in the restored vitality, for their restored functions continue unimpaired for years. They are in no case obliterated; and this is best proved by the fact that after a limited number of years they again become distended and require a renewal of the treatment. This is not to be wondered at; for we cannot pretend that the restored vein is made better than it was originally, and if the sound vein gave way in the first instance, it is only reasonable to expect that under similar conditions the restored vein will also yield. This restorative treatment has the additional advantage of being applicable in regions where the ordinary palliative measures cannot be used, as in the walls of the abdomen and elsewhere. It is also suitable for dispelling the effusion and solid œdema which so often accompany the varicose condition.

The timely application of a series of blisters disperses this, and averts the almost certain sequel of hideous, intractable ulcers. The cure of these ulcers is most successfully accomplished—as pointed out by Mr. Syme—by the application of blisters to the surrounding œdema. I always feel that in anticipating the formation of these ulcers and preventing it by dispelling the nidus of solid œdema where they form, I am acting consistently with the teaching of that great master.

*Details of Treatment.*—I first ascertain, and,

if possible, remove the cause. I then prescribe such remedial measures as obviate a tendency to renewal of the cause. Third, I place the patient recumbent, with the affected part elevated on pillows, for twenty-four hours, or such period as may be necessary to enable the limb to regain, as nearly as possible, its normal calibre. I then blister from the foot or sound part of the vein upwards along its course, say six inches daily, always watching for the first symptom of disturbance in kidney or bladder. This does not occur so readily as one would expect from the proximity of the blistering agent to the surface of the veins. This may probably arise from these having in a great measure lost their absorbing power, or from the suction necessary to absorption being absent. Still the bladder does sometimes become affected, and when this occurs we must suspend operations for a day or two. Certain of the blistering liquids contain camphor, and this is said to prevent strangury.

In order to make sure of this safeguard, it is well to begin by a coating of Rubini's tincture, allowing it a minute or two to dry, and then applying the blistering liquid over it, with which it amalgamates. When the blistering liquid has had a minute or two to dry, I apply a coating of flexile collodion. This serves the double purpose of preventing evaporation and contracting the skin over the vein, and does not prevent, but rather aids the action of the blister. The blister *must* rise and the serum be withdrawn, but the action of the blister continues for days after, so long as any redness remains. The rising of the blister is useful in a secondary way, because the pain connected with it tends to reconcile the patient to the recumbent posture, which is absolutely necessary to success. When the whole of the affected vein has undergone blistering, the part should be carefully strapped with strips of adhesive plaster, two or three inches wide. This gently stimulates the whole surface of the leg, and assists the veins to resume their suspended functions. When the plaster begins to pucker, it should be renewed and fresh strips applied. Two weeks after the strapping has been applied it may be removed and the veins tested by placing the patient in the erect position. If the vein bulges anywhere, that part should be again blistered and the process renewed. If not, fresh strapping should be applied, and the patient al-

lowed to take gentle exercise for a couple of weeks, when the leg should be again examined and the strapping renewed. Sometimes, if the avocations of the patient compel him to walk earlier than is indicated, a solid coating of collodion over the affected surface may advantageously take the place of strapping. Thereafter, with renewed precautions as to avoiding any probable cause of obstruction, we may take leave of our patient with the parting advice, that he should daily practise walking on tiptoe until he acquires the habit of putting the toes down first. This saves the vein from the distending effects caused by the checked momentum of the contained column of blood which results from the jerk of placing the heel down first.—*Edinburgh Medical Journal*.

**TREATMENT OF FISSURED NIPPLE AND ENGORGED MAMMARY GLAND.**—In the treatment of fissured nipple, when the cracks are at all extensive, the ordinary remedies recommended from time to time have been found more or less unsatisfactory. Painting with tincture of benzoin, for instance, while an excellent procedure for small superficial cracks of the nipple, is perfectly worthless in more advanced cases. The writer has found in hospital and private practice that excellent results can be secured in bad cases by the application of an ointment made up of equal parts of castor oil and subnitrate of bismuth. This mixture makes a very smooth, soft ointment, which relieves the pain, and is an excellent protective to the part. Before application, the nipple and surrounding skin should be carefully cleansed and disinfected, and then the ointment should be smeared on plentifully. If it is necessary for the child to nurse from the affected nipple, it can be allowed to do so without the necessity of removing the ointment from the nipple, as must be done if tannic acid or the salts of lead are used. This is a serious disadvantage of many forms of treatment recommended for fissured nipple, for the irritation of removing the substance employed as a local sedative neutralizes its action. For the engorgement and pain in the mammary gland itself, which so often accompanies fissured nipple, the writer has had excellent results from the use of an application of lead water and laudanum, which is applied by means of a

cloth covering the whole breast, renewed at frequent intervals, and kept in place by a suitable mammary binder, either that recommended by Richardson or the Murphy bandage. This not only retains the dressing, but supports the breast and exercises even pressure upon it. With this treatment the development of mammary abscess is a rare event. If the child can be nursed from the other breast alone it is safer, I think, to draw the milk from the affected gland by means of a breast-pump until the cure is almost complete. If it is necessary that the child should nurse from the cracked nipple, a glass nipple shield with a rubber tip must be employed.—*Barton Cooke Hirst, M.D., in University Medical Magazine*.

**A CASE OF REMARKABLE SURGICAL INTEREST.**—The following case was communicated by letter from Dr. W. W. Stennett, of the Chicago and Northwestern Railroad, to Dr. Edward H. Williams, of the Baldwin Locomotive Works, and is well worthy of being recorded in the *University Medical Magazine*: "A switchman, in a retired part of one of the yards of the Chicago and Northwestern Railroad, picked up the arm of a man which had been crushed off at the shoulder-joint, and having on it a shirt-sleeve. Diligent search was made for the owner of the lost member, but nowhere could he be found, nor could any clue to the accident be discovered. Five days after the accident the police found the man at Clyborn, five miles from the scene of the injury, exhibiting his mutilated shoulder in proof of his arm having been cut off by a train. This exhibition he had made in twenty or thirty saloons for the purpose of obtaining whiskey. During all the time no dressing had been applied, or any vessels tied. He was sent to a hospital, and recovered perfectly. On examination, it was found that the arm had been torn out of its socket, leaving the other elements of the shoulder, the clavicle and scapula, intact." The forcible ablation of an arm has often occurred by machinery without any serious loss of blood, but the shock usually renders the patient helpless, and the surgeon invariably feels it his duty to ligate the crushed vessels. The marvel, however, in this case was in the ability of the man to travel about for five days, realizing neither shock nor bleeding. It

is not improbable that had one or two days more elapsed without a dressing, fatal bleeding would have ensued from sloughing of the crushed vessels, such sloughing often being delayed as late as the seventh day.—D. Hayes Agnew, M.D., Emeritus Professor of Surgery, University of Pennsylvania.—*University Medical Magazine*.

THIOL IN DISEASES OF WOMEN.—Gottschalk (*Centralblatt f. Gynakologie*, March 21st, 1891) has used thiol in inflammations of the uterus and its appendages for nine months. He treats para and perimetritic exudates with vaginal tampons impregnated with a ten or twenty per cent. glycerine solution of the drug. At the same time he has the abdomen rubbed once daily with a salve containing the same remedy. After the tampon has been placed, the patient, as a rule, feels a "drawing up" of the belly, and there is a free flow of vaginal secretion. The tampon is removed in twenty-four hours, and the flow ceases. The local effect of the drug on the skin of the abdominal wall is much the same as that of tincture of iodine. After six or eight days' application, it is well to intermit this part of the treatment until the skin has regained its normal condition. Under this treatment, which will eventually be supplemented by the internal use of the drug, large pelvic exudates have disappeared in a few weeks. Up to the present time, Gottschalk has not failed to cure any case of this kind by this treatment, which has passed through his hands. Baths and massage are very useful adjuncts to the treatment. Inflammatory erosions about the vagina are treated with equal success by dusting them with a dry thiol powder. Acute and chronic endometritis also yield readily to the remedy applied in solution on an applicator. The application is painless and without danger. The uterine colic which follows the use of iodine is not met with. No serious irritation has been observed to follow either the vaginal or intra-uterine applications. At times a slight blood discharge is seen to follow immediately after the treatment, due to the local irritating action of the drug upon the uterine mucous membrane. The mucous membrane is exfoliated after many applications.—*University Medical Magazine*.

TURPENTINE AS A GERMICIDE AND ANTISEPTIC.—Although the oil of turpentine (*Oleum Terebinthinæ*, U.S.P.) is not unknown as an antiseptic and germicide, its insolubility in water and its irritating properties have hitherto made its use impracticable. That it has its special uses, however, in this connection, I have had abundant testimony. It is a well-known fact among naturalists that if the air of a cabinet be impregnated with the vapor of turpentine, the specimens are safe from the ravages of moths and other intruders, so long as this condition of the air of the cabinet remains. Having learned the advantage of turpentine in preserving entomological specimens, I concluded to try its germicidal properties in the cases containing surgical instruments. A bacteriological examination of the cases, made four weeks afterward and compared with the examination of cases not provided with turpentine, convinced me of its efficacy, and I soon afterward applied the same principle to drawers containing towels, gauze, bandages, etc. The method is simple. The turpentine is placed in flat large-mouthed bottles at the bottom of each case or drawer, the volatility of the turpentine causing the vapor to impregnate the surrounding air. Of late I have also placed my surgical instruments, the night preceding an operation, in a flat dish containing oil of turpentine. The instruments are completely sterilized, are not injured by the submersion, and are easily dried by a piece of sterilized gauze or towel. The characteristic odor of turpentine can be removed by ether. The cheapness of turpentine and the ease with which it may always be obtained, added to its special adaptability in preserving the aseptic condition of instruments, bandages, etc., by its vapor, may make it a valuable addition to the list of our antiseptics and germicides. I have also used benzole in the above manner. Its greater volatility gives it a more rapid germicidal action than turpentine, but its great inflammability admonishes caution in its use.—*Medical News*.

ST. LOUIS MEDICAL COLLEGE has been made the Medical Department of Washington University.

SOME German physicians propose that the coachmen of medical men wear white hats.



# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

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TORONTO, JULY 1, 1891.

## A FIVE YEARS' COURSE IN MEDICINE.

The most important part of the recently amended curriculum of the Medical Council is the requirement of a five years' course of study from students after matriculating. This journal has always done its share in advocating higher standards of medical education in this province; but with reference to this radical change, we are placed in this position: we must either follow those who have passed us in the race, or oppose their recent enactment. We have considered the matter carefully, have consulted many friends of higher medical education, and have arrived at a definite conclusion that we will loyally support the Council in its new departure.

It is well known that Dr. Bergin has been for years the sturdy champion of the five years' course. He has also advocated making a degree in arts the standard for matriculation. We have frequently been compelled to differ from him on certain points, and especially with reference to his views on the arts course. Such a course does not of necessity furnish a good preliminary training for the study of medicine. Raise the standard for matriculation, if you like; but choose with care the subjects most suitable for the purpose instead of demanding something so indefinite as a degree in arts without any restrictions.

In our last issue we gave a summary of the main points in the now celebrated report. Its reading caused considerable surprise, and even alarm. We are told that Dr. Bergin in his advocacy of the proposed changes made one of the ablest speeches that has ever been heard in

the Council. The other members of the committee supported him on every point. The big fight was on the five years clause. The opposition was vigorous and able; the discussion was prolonged and spirited; the resulting majority in favor of the adoption was small. On the first vote in the "committee of the whole," the clause was carried by the casting vote of the chairman.

There is a general consensus of opinion that the new requirements will prove a serious blow to the medical colleges; but as the supplies from the schools in recent years have considerably exceeded all legitimate demands, the general profession can view that aspect of the case with equanimity. We have no desire, however, to see the schools which have done good work in the past seriously injured; but we have an idea that the numbers will not be so much diminished as is expected in some quarters. After all, our educational institutions should take pride in the quality of their students rather than the quantity.

It is generally conceded in all parts of the world that the tasks imposed on students in medicine have been greatly increased in recent years. As a consequence, the pupils in all the schools have been kept at high pressure during their whole course. A large portion of them have very crude and ill-digested ideas on many if not all the subjects of the various curricula. This fact is duly appreciated by a large and increasing number of graduates from year to year, as is shown by the fact that so many make it a rule to take some sort of a post-graduate course before commencing active practice. Unfortunately it has happened in the past that many of the weakest graduates have not recognised their deficiencies, but have considered any post-graduate work as entirely superfluous, and have commenced their life's work without a sufficient definite knowledge to guide them in the serious emergencies which occur in medical, surgical, and obstetrical practice.

The new requirements will compel the weaker to adopt a course which is so necessary for them, while it will do no harm to the stronger. Law students are required to take a five years' course, and yet there is no alarming deficiency in their ranks. On the contrary, law, like

medicine, is full to overflowing, and our own profession is unlikely to suffer much from diminished numbers. That the general standing of the medical profession will be materially raised under the new régime is beyond doubt. In the future it will be a grand thing to be able to say that the physicians of our fair and prosperous province are second to none in the world from either a practical or scientific point of view.

#### BURLINGTON AND HOME ELECTION FOR THE MEDICAL COUNCIL.

The decision of the committee of the Council, with reference to the protest of Dr. Miller against Dr. Shaw's return has caused much comment. Dr. Shaw was declared elected by a majority of four. In the first place, the disputed ballots, seventeen in number, were all counted. There was no question as to intention or identity in any case, and, therefore, there can be little doubt as to the justice of this decision. Dr. Miller had a majority of two on these "spoiled" ballots, and Dr. Shaw's four were reduced to two.

Various votes then came up for consideration. The vote of Dr. E. B. O'Reilly was thrown out because it was considered that he was not a resident of the division. We must confess that we cannot understand the reasons for this. Dr. O'Reilly was born and reared in Hamilton. While a student of medicine in Toronto his home was in Hamilton. Sometime after graduating he was appointed superintendent of the Winnipeg Hospital. He left there a year ago, and since last September has been living and practising in his old home—Hamilton. He has, however, expressed his intention to leave that city, and on this account the committee considered him a non-resident. If he does not live in Hamilton, he certainly lives nowhere; and while we acknowledge the element of doubt, we question the justice of his disfranchisement.

The vote of Dr. Rannay, of Georgetown, was thrown out because, at one time, he refused to pay his fees to the Council on the ground that he had been registered by another party without his knowledge or consent. Still we know that Dr. Rannay does practise to a limited extent, and he is legally a registered practitioner, resid-

ing in the division, notwithstanding his indefensible conduct with respect to the non-payment of his fees.

The vote of Dr. Robinson, Jr., of Brampton, was thrown out because he was in New York and was not practising in the division, although Brampton, where his father lives, will, in a sense, be his home until he finally locates. In this case we are inclined to agree with the committee. Dr. Shaver made the singular mistake of voting for both candidates. This vote was allowed to Dr. Shaw, but we think it should have been thrown out altogether.

The vote of the returning-officer, which went to Dr. Shaw, was thrown out. There have been many discussions with reference to the right of the presiding officer to vote, some contending that he should only be allowed the right in case of a tie, others maintaining that he should vote as an ordinary elector and have a second vote in case of a tie. If the result of this protest were accepted by all, it would remove the doubts which exist. In the last general election for the Council, we thought the majority of returning-officers voted in the ordinary way. The recent decision surprised many, and may not establish a thorough precedent because the members of the committee were not unanimous in their opinions.

Although this contest was conducted with considerable vigor, if not bitterness, we are glad to know that both candidates were considered above reproach; and consequently, as far as professional weal or woe is concerned, it is a matter of little consequence whether Dr. Shaw or Dr. Miller represents the division. At the same time, it will generally be conceded that Dr. Shaw has had rather "hard luck."

WILLIAM AINSLIE GOODALL, described as of Montreal, and registered as L.K.Q.C.P.I., 1885, has, for disreputable conduct, had his name removed from the British Register. His name had already been erased for the same reason from the Medical Register of the Province of Nova Scotia, and from the Roll of Licentiates of the Royal College of Physicians of Ireland. Goodall had offered to practise gratuitously and to guarantee cures, and had issued objectionable and disreputable advertisements to the public.

## Meeting of Medical Societies.

### THE ONTARIO MEDICAL ASSOCIATION.

(Continued from page 292).

Thursday morning, June 4.

#### MEDICAL SECTION.

Dr. A. B. Osborne, Hamilton, read a paper on

#### "PATHOLOGICAL WEEPING,"

which appears at page 275 of THE CANADIAN PRACTITIONER.

Dr. Birkett, of Montreal, emphasized the statement concerning the necessity for the examination of the nose in seeking for the cause of epiphora. He had seen cases due to contact between a hypertrophied middle turbinated bone and the septum.

Dr. Trow, of Toronto, believed that the dilatation of the stricture often proved unsuccessful because no attention was paid to the catarrhal condition of the mucous membrane, which, unheeded, kept up the disease.

Dr. McWilliams, of Thamesford, read the history of five cases of

#### PHLEGMASIA DOLENS,

treated chiefly by salicylate of soda, in which recovery had occurred more quickly than usual.

Dr. Adam Wright, of Toronto, also read the history of a case of

#### PHLEGMASIA DOLENS.

The salicylate, he thought, was useful, but the weakness and depression of septicæmia contra-indicated it. He had found it one of the most difficult drugs to administer, because the patient was so soon nauseated by it. The pain makes the patient worse and prolongs the disease. Opium he thought, for that reason, to be the best drug. Purgation by epsom salts in small doses, and support in the form of quinine and other tonics, formed the treatment he would recommend.

Dr. Barrick, of Toronto, believed that opium should be the mainstay.

Dr. Cronyn, of Buffalo, said that the salicylate might be made very acceptable by combination with the aromatic spirits of ammonia, and Battley's solution.

#### SURGICAL SECTION.

Thursday morning, June 4th.

Dr. Primrose read a paper on

#### FATTY TUMORS IN THE INGUINAL CANAL.

He stated that the origin of fatty tumors in this neighborhood was often somewhat obscure, and it had been suggested that they were derived from the extra peritoneal fat. The subserous fat bears to the peritoneum a relation very similar to that borne by the subcutaneous fat to the skin. Lipomata in the latter situation are very common, and we are not surprised to find like developments in connection with the subserous fat. Lipomata have been described by Mr. Bland Sutton occurring in connection with the colon, developed from the subserous fat of the visceral peritoneum. Dr. Primrose has in his own practice found a fatty tumor lying on the rectus muscle, pedunculated, the pedicle passing through the abdominal wall, and apparently continuous with the subperitoneal fat. This tumor was under the deep fascia, was lying in a very thin capsule, which presented septa passing between the lobules; there was no peritoneal covering. The tumor had been looked upon as a ventral hernia, and possibly this error in diagnosis is not infrequently made, the subserous fat being mistaken for omental, until the true condition of affairs is revealed at the operation. If, therefore, we have instances of tumors developing from the subserous fat both in connection with the parietal and visceral peritoneum, we are not surprised to find a like condition in the inguinal canal. Dr. Primrose then described a specimen which he had dissected in the anatomical rooms of Toronto University. A fatty tumor was found projecting from the external ring, lying on the anterior aspect of the constituents of the cord and within the coverings of the cord; it was entirely devoid of peritoneal covering, and a careful dissection from within the abdomen demonstrated the fact that there was no hernia and no pouching of the peritoneum, whilst the tumor was attached to a pedicle which lay in the inguinal canal and was continuous with the subperitoneal fat in relation to the internal ring. Fatty tumors in the inguinal canal may of course be omental, and a case was described in which an omental hernia, the size of a duck's egg, was found within the



inguinal canal associated with an imperfectly descended testicle. In the neighborhood of the canal, although not within its coverings, we occasionally have tumors developed from the subcutaneous fat. The sources from which fat tumors in this neighborhood may be derived are, therefore, (1) omental, (2) subserous fat, (3) subcutaneous fat.

Dr. Grasett then read a paper on

#### LITHOTOMY.

The question arises as to whether or not the suprapubic method affords an easier means of entering the bladder than the lateral operation. Gasron demonstrated the effect of dilating the bladder and rectum, the fact that by so doing the bladder can be raised up behind the abdominal wall. The operation is undoubtedly easy, as there are no vessels of importance in the way; the dangers are that of wounding the peritoneum and septic infection, the latter favored by disturbance of the cellular tissue in front of the bladder.

In Toronto the results obtained by the lateral method have been most encouraging. The dangers in the lateral operation seem to be exaggerated; only one case of damage to the rectum has been seen by Dr. Grasett, and he has never seen a case terminate fatally. With the good results recorded, we must look upon the lateral operation as a safe procedure. Perineal lithotomy in boys has been an extraordinarily successful operation. In boys, of course, by the suprapubic route we avoid any possible danger to the vesicules seminales and we cannot open up the recto-vesical pouch, things possible in the lateral operation. In the aged, the suprapubic method may afford some special advantages in cases of enlarged prostate. In the cases of large calculi we have more room afforded by the suprapubic method, but stones are recognized now much earlier in their formation than formerly. The prospect seems to be that in the future the suprapubic operation will supplant the lateral, although in Toronto the lateral method is still the favorite.

Dr. Holmes, of Chatham, stated that he had never done the suprapubic operation, and that he has hitherto been satisfied with the results of the lateral method. He narrated a case of lithotrity in which the blades would not close

after crushing, and with great difficulty he removed the instrument from the bladder, the blades being separated about a quarter of an inch. The cause of the difficulty was because of a defect in the making of the lithotrite. The smaller blade fitted the shoe accurately, but the shoe had no perforation in it, so that the debris could not fall out.

Dr. Eccles, of London, referred to two cases of suprapubic lithotomy. One in a girl, *æt.* 7; the stone was so large (726 grains) that the high operation seemed indicated. The child made a good recovery. Another case in a man, *æt.* 62; there were twelve stones in the bladder. The bladder was distended, and there was no difficulty during the operation. The stones were round, and about the size of a filbert. After the bladder closed a small abscess developed in the subpubic fat, but this soon healed. The recent advance in abdominal surgery has done much to develop the operation of suprapubic lithotomy.

Dr. J. F. W. Ross presented a note on the

#### DIGITAL EXPLORATION OF THE FEMALE BLADDER,

which will appear in full in the columns of this paper.

Dr. Kelly stated that he has practised this method for many years. The little finger, as suggested by Dr. Ross, is preferable to the index. If the index finger be introduced with the pulp down the second finger strikes against the pubic arch, and is limited in that way; the little finger, however, introduced in the same way will permit of invagination of the soft tissues by pressure of the other fingers, and thus length is added to the digit. The tactile sense seems sufficiently acute in the little finger. Dr. Kelly often uses two small lateral clean incisions at the meatus, subsequently closed by suture. The bimanual method should be used in exploring the bladder.

Dr. Dame mentioned a case in which there was retention of urine, relieved by dilatation of the urethra, but the lumen narrowed down again in a few days, and symptoms recurred. The case was obscure, as no cause was discovered.

Dr. McFarlane referred to the extent to which the urethra could be dilated without causing in-

continence. He has removed stones of considerable size without ill effect.

Dr. Price Brown read a paper on

#### DEVIATIONS OF THE NASAL SEPTUM.

This paper will appear in full in THE CANADIAN PRACTITIONER.

Dr. B. E. McKenzie exhibited four cases of

#### TALIPES REQUIRING OPERATION.

The method of Phelps, of New York, was referred to. First, correct the varus so that the foot is in the axis of the leg; subsequently correct the equinus. Phelps' operation of incision on the concave surface of the foot was described; it is better than removing bone on the convex surface. The foot should first be brought into a position of over-correction, and retained there by fixation apparatus, *e.g.*, plaster.

#### GENERAL SESSION.

Thursday afternoon, June 4th.

Dr. F. R. Eccles, of London, read a paper on

#### MYOMA OF THE UTERUS.

This paper will be published in full in THE CANADIAN PRACTITIONER. In the discussion which followed, Dr. A. A. Macdonald remarked that the term "fibro-myoma" was more suitable than "myoma"; this he argued to be the case from the histological characters of the tumor. Treatment must vary according to the position of the growth—subperitoneal, submucous, or intramural. The submucous shows a greater tendency to bleed than the others, and the condition often demands operative interference because of repeated hemorrhages. They, too, tend to become pedunculated, and may be removed through the vagina; occasionally they become strangulated, and a spontaneous cure results. Of medicinal treatment, ergot alone is useful; it must be used in large doses, and continued for a long time. Curretting is sometimes useful where there is endometritis. When it is proposed to use electricity, we must make sure of our diagnosis; the treatment is useless in the subperitoneal forms. In submucous varieties electricity is only useful for the purpose of controlling hemorrhage, and the treatment is always tedious; the patient may tire of it, and may go to another practitioner, who removes the uterine appendages and effects a rapid cure! Electricity

proves of the greatest value in intramural tumors. The strength of current varies in different patients; some stand a much stronger current than others; we must begin with a weak current. Electricity employed in unsuitable cases and in a careless way may lead to untoward results; thus Dr. Joseph Price remarks that very many cases present themselves now with extensive adhesions, the result of previous treatment by electricity. In view of this fact, we must proceed with great caution and watch the degree of tolerance exhibited by the patient. Many men have abandoned older methods and have instead used electricity, this, too, with great success, as in the hands of Keith, for instance. We must remember that many cases may be safely carried to the menopause, and the growth then diminishes; we are sometimes warranted in bringing on the menopause prematurely by removal of the uterine appendages. In certain cases, where the woman is a constant sufferer, pain severe, and hemorrhage profuse, there may be nothing left to afford hope of relief but hysterectomy.

Dr. Howard A. Kelly, of Baltimore, then read a paper on

#### INJURIES OF THE VAGINAL OUTLET OCCASIONED BY PARTURITION.

The support to the vaginal outlet has been erroneously viewed; the anatomical features have been allowed to overshadow the physiological factors in considering the subject. If we examine a virgin and introduce the finger into the vagina, the individual lying on her back, we find the rigid pubic arch above and in front, the rami on either side, and a rigid band posteriorly, stretching from one side to the other behind the vagina. The vaginal outlet is tucked up under the pubic arch by this band, which is not always rigid but relaxes occasionally. Here then we have something which exercises a tonic contraction, and this is due to the fibres of portion of the levator ani muscle. The tissues of the fourchette are lax and not capable of affording any support. The anterior fibres of the levator ani muscle therefore supports the vaginal outlet; it also passes back to and around the rectum, being related, however, more especially to the *sides* of the rectum.

With rare exceptions injuries to the vaginal outlet occur during parturition; the vaginal

outlet is subject to sudden enlargement, it forms the mouth of a funnel through which a large and irregular body (the child) is to be propelled.

Three grades of tears—1. Begins at the fourchette and breaks down the lax tissue; it does not in any way affect the supporting structures of the vaginal outlet, this is, therefore, unimportant as far as the support goes. 2. A tear running up one of the sulci of the vagina, tongue-shaped, into the vagina. This is the result of the head and shoulders of the child tearing up the tissues at the side of the levator ani. The important part of the tear lies within the vagina. This injury, which often escapes notice, should be sought out and treated at once. Bring the patient to the edge of the bed, and get a thorough exposure of the wound. Silk sutures are best, the first one passed must be in the upper angle of the wound; one or two sutures within the vagina will be sufficient, and they must be passed so that the lowest and deepest part of the suture will be nearer the operator and the vaginal outlet than will be the point of entrance or exit; this tucks up the tissue in the proper manner. The common method is apt to leave a pocket or sac in the vagina, and the outlet is not properly supported. The old method also was to pass the sutures on the outer or skin surface first; this gave a good skin perineum, but a great well is left within the vagina for secretions to collect. 3. A degree of tear which involves the integrity of the bowel, the rupture passing through the sphincter and up the recto-vaginal septum to a variable extent and involving a tear of the levator ani fibres. We must close this in two stages—suturing the bowel first, either by continuous or interrupted cat-gut suture, deeply placed. Then pass one or two silk sutures, passing them well back so as to afford good support. Cat-gut is excellent, but will not stand pressure, therefore silk must be used in addition. Then complete the operation by the superficial sutures as described, then the skin sutures. A well-performed immediate operation always succeeds in the absence of puerperal fever. It is always to be preferred; the patient is relieved from the discomfort of a second operation.

There are two important secondary operations where we have to deal with (a) a complete tear through the sphincter; (b) where we have re-

laxation of the vaginal outlet. It is difficult to find the ends of the divided sphincter. If the tear be a shallow one, although just through the sphincter, still the ends of the sphincter may be so held together by the tissues in which it lies, and eventually in cicatricial tissue, that there is not incontinence of feces afterwards. When we have a case in which the sphincter has been torn across, we wish to make the condition as much as possible like the recent tear. This is done by denudation and then suture as in recent tear. The tear may go up one sulcus or both, or up the middle line of the posterior vaginal wall.

The condition known as *relaxation of the vaginal outlet* is the most important of the injuries here. This condition is often not recognised. In this condition we notice that the anus and the vaginal outlet have dropped back. The perineum is frequently deep and the skin perineum, measured with a tape-line, may be found to be extensive; nevertheless the support of the vaginal outlet may be lost. The walls of the vagina may pouch, and we may find a cystocele, or a rectocele, or both. If we place the patient in Sim's position, the absolute lack of support becomes very evident. Palpation also aids us, the skin perineum can sometimes be picked up between the fingers and thumbs and carried forward over the clitoris. The anterior, posterior, and lateral vaginal walls look as if they might afford support, but to the simple touch they yield, showing that they fill up without supporting the vagina. What has become of the loop of muscular fibre which affords support? The fibres of the levator ani are found lying parallel to and alongside the vaginal walls, their transverse continuity severed and their support gone. The characteristic "rolled out" appearance of the relaxed vaginal outlet can be developed by placing the thumbs on either side of the outlet and pushing upwards and backwards. Another test is by introducing the fingers and pulling downwards and outwards, when the cervix uteri can actually be seen under such conditions. The relaxed outlet may sometimes be concealed, such women are under a more or less constant strain, a constant effort to draw up the muscle, and the result often is reflex nervous symptoms. Relaxation suspected is developed on putting the patient under an anæsthetic. The hymen in



some cases remains intact, the laceration passing down one or both sulci. The rational treatment in such cases is as follows: Denudation is carried on so that two triangular areas are mapped out within the vagina, one extending towards the fornix of one side, the other towards the fornix of the other side, the apex being high up, the base abutting against a crescentic surface, which lies between the hymen and the fourchette. The first suture passed is of silk worm-gut, passed in the manner before described for recent tears, the deep part of the suture being nearer the operator than the point of entrance or exit. Above this, higher up within the vagina, a few points of cat gut suture may be necessary to bring the edges together. The operation is completed by passing a suture in a circular course around the crescentic surface, beginning posteriorly and passing it around and out again near point of entrance, in such a manner that, when drawn tight, there is a puckering up of this crescentic area. A few superficial sutures will be necessary to complete the accurate apposition of the edges. This form of treatment yields most excellent results.

Dr. Temple had formerly looked upon the perineum as a support for the uterus, but now he looked upon it more as a support for the rectum and bladder. In repairing a recent perineal tear, his practice has been to pass the sutures from without inwards. The object in view has always been to carry the curved needle as far outwards as possible, in order to get hold of the end of the divided muscle. So far his results have been satisfactory. The operation described by Dr. Kelly, the bilateral one, is an old method. If possible, remove very little tissue, as we have no more tissue than we want to restore the normal condition of the parts.

Dr. Kelly stated that whereas the genius of the whole method of operating comes from Emmet, yet recent modifications of original methods have proved of considerable value. He does not agree with Dr. Temple concerning the removal of tissue; in relaxed outlet we have more tissue than we have in the normal condition, and this must be removed.

#### MEDICAL SECTION.

Dr. H. A. Macallum, London, read a paper on

#### SOME POINTS IN THE PATHOLOGY OF KIDNEY DISEASE,

which will appear in full in THE CANADIAN PRACTITIONER.

Dr. John Caven wished to support the main statements of the essayist, and in particular those which were contrary to generally accepted beliefs. In his experience in the dead house he had found but few normal kidneys. In nearly all were to be found, just beneath the capsule, small wedges of inflammation. He agreed that the classification of kidney diseases, as used at the bedside, was nonsensical, for interstitial inflammation affects eventually the parenchyma, and *vice versa*. He had found the capillaries of the tuft denuded of their endothelium, but still perfectly clear in outline. This membrana propria must be directly derived from the elastic tissue of the artery. In no other capillary does this occur, and this might be the reason why the leucocytes were not seen within the capsule. Endothelium might be found, but not leucocytes. Cysts, he believed, were often produced by plugging of the urinary tubules by albuminous material; more frequently they were caused by localized interstitial nephritis. Mucous cylinders, he thought, were most easily recognized under the microscope by the fact that they were frequently divided at the end. This distinguishes them from hyaline casts.

Dr. McPhedran did not believe in the existence of a physiological albuminuria. He was in accord with the views expressed as to the classification of kidney disease.

Dr. Sheard said that the transudation of leucocytes was still believed in, notably by Klein. He did not think the mucous cylinders could be distinguished from the hyaline cast, which was always to be found in albuminuria. He did not think a large white kidney became a contracted one, because the patient dies too soon. A large white kidney was easy to discover; a contracted kidney, difficult. Classification was necessary for the sake of clearness. The term, Bright's disease, might mean anything.

Dr. J. E. Graham drew attention to the deduction to be drawn from the statements of the paper, that patients with fatty casts in the urine seldom recover. This is an important point in prognosis. In his opinion physicians were too

apt to think that because the urine contained albumen and casts that the patient was doomed. This was not necessarily the case. Our prognosis should be made rather from the symptoms than from the urine. He thought that although it was quite possible for a large white kidney to become a contracted one, still the classification usually adopted was too useful to be dispensed with.

Dr. Macallum, in reply, objected to the slipshod way in which, at *post mortems*, simply because the capsule peeled off readily, the kidney was declared healthy. Nothing but a microscopical examination could determine that positively. As there is but one kind of inflammation, he failed to see how there could be a classification of kidney disease. Clinically it is impossible to tell anything more than that the inflammation is acute or chronic. An illustrative case was cited in which microscopical diagnosis had been surgical kidney, clinical diagnosis contracted kidney, while the *post mortem* had revealed one surgical, one contracted kidney. Classification might be useful for prognostic purposes, but symptoms were far more so. Dr. Klein had recanted his views. Physiological albuminuria he believed in. The albuminuria consequent upon a cold bath could not be pathological; it must surely be physiological. The mucous cylinder was best recognized under the microscope by the aid of the reflector, or by the use of the aniline dyes.

#### SURGICAL SECTION.

Thursday afternoon, June 4th.

Dr. A. E. Malloch, of Hamilton, read a paper on

#### EXCISION OF THE SHOULDER AND ELBOW JOINTS OF THE SAME ARM FOR TRAUMATISM.

This article appears on page 293, in this issue of THE CANADIAN PRACTITIONER.

Dr. Geo. A. Peters, of Toronto, read a paper on

#### ACUTE NECROSIS OF GROWING BONE.

This title is perhaps the best that has been proposed for this disease, although it has been described under many other names, as acute infective osteo-myelitis, necrosial fever, bone-typhus, etc. It is an exceedingly malignant disease, and its early diagnosis is attended by such

difficulties that Holmes remarks, that it is more frequently recognized at the *post mortem* table than at the bedside.

The symptoms were illustrated by the narration of the history of a typical case. A girl, æt. 9, who had always been delicate, was attacked suddenly with pains in the right knee, which rapidly spread to other joints. Two days later, pain and tenderness were complained of over the lower end of the right femur. At first there was no swelling, but in a short time this thigh was observed to be larger in circumference than the opposite one, and the diagnosis of acute necrosis as a complication of rheumatism was established. Before consent to operation could be obtained, the patient developed double pleurisy and pericarditis, and sank so rapidly that it was decided that operation would be of no avail, and the patient died on the ninth day of the disease. Only a partial *post mortem* could be obtained. On making an incision over the lower end of the femur, pus gushed out as soon as the periosteum was reached. It was found that the periosteum was totally separated from the femur throughout its lower half, the separation, however, stopping abruptly at the epiphyseal cartilage. On making a section of the bone, the cancellous tissue on the shaft side of the epiphysis was found to be acutely inflamed, and separation of the epiphysis from the shaft was in progress.

Through the kindness of Mr. Mackenzie and Dr. Shaw, cultures were made from the pus, and typical colonies of the staphylococcus pyogenes aureus were found. An inoculation of this culture in a white mouse caused death in thirty-six hours, with symptoms of septicæmia, and cultures were again made from the blood of this mouse, and found in a commencing abscess which was forming on the right axilla.

The remarkable virulence of this germ when growing in bone was attributed to the peculiarity of the circulation in such structures, which affords peculiar facility for the lodgment and growth of the virus, and for the entrance of the morbid products into the circulation. The diagnosis from rheumatism, typhoid fever, the eruptive fever, and cellulitis, was dwelt upon; the principal point to be relied upon being the acute pain and tenderness on pressure over the affected part.

In the treatment stress was laid upon the importance of early incision down to the primary focus of the disease, whether that was to be found in the periosteum, as held by English writers ; in the medulla, as asserted by the Germans and French ; or in the cancellous tissue adjacent to the epiphyseal cartilage, as maintained by Tubby and endorsed by the author. The shaft of the bone should be opened freely by the trephine or chisel, and thorough irrigation with a strong antiseptic should be practised. Where the medulla was affected throughout the whole length of the shaft, multiple incisions should be made, and the whole of the affected medulla should be scraped out with bent scoops. It should be remembered in the after treatment that all bare bone was not necessarily dead, and the bone should not be removed until nature had decided how much of the affected part might recover. Then the ordinary operation of sequestrotomy could be performed, and the hiatus filled with Senn's decalcified bone chips, desiccated sponge or blood clot. The limb should be placed upon a splint early in the disease, in order to prevent pathological fracture or separation of the epiphysis.

Dr. N. A. Powell stated that the fact that the condition sometimes follows some of the exanthemata has been recently fully dealt with by Keen. Dr. Powell has seen three cases in the lower end of the femur ; several have come under his notice in the tibia. A case occurring in the tibia was mentioned in which a persistent high temperature, 105 F., continued with obscure symptoms. There were thoracic complications and parotid suppuration. An operation was performed and necrosed bone from the tibia removed. The patient recovered. The onset of the symptoms is often abrupt. In the treatment an error is often made in removing too little bone. Except in the time saved in the healing process there is no advantage in the use of Senn's chips here.

Dr. Peters, in reply, emphasized the statement that these cases are often not recognized until it is too late.

#### GENERAL SESSION.

Thursday Evening, June 4th.

Dr. Reeve opened the discussion in ophthalmology and otology. He dealt entirely with

points of general interest in otology. His paper will appear in full in the columns of THE CANADIAN PRACTITIONER.

In the discussion which followed, Dr. Osborne, of Hamilton, stated that he prefers the chisel to the drill in opening the mastoid. If the ear be examined as a matter of routine practice in every case by means of the tuning fork, we would be struck by the frequency with which the internal ear is implicated in middle ear disease. The nasopharynx should be treated antiseptically because of the frequency of the passage of micro-organisms up the eustachian tube to the middle ear. Eight cases out of ten of deafness in children are due to the morbid condition of the nasopharynx. Dr. Osborne has used peroxide of hydrogen, or alcohol ; the latter he prefers.

Dr. Moorhouse warned against the error of delay in opening the mastoid, so frequent a source of failure in treatment.

Dr. Birkett, of Montreal, referred to the fact that cases may exist without any of the classical symptoms of mastoid disease. He had seen two cases in which there were no symptoms save discharge and headache. He urged the importance of surface thermometry of the mastoid and auditory canal in such obscure cases.

Dr. Ryerson spoke of the necessity of careful inquiry in cases of supposed foreign bodies in the ear. He had known a case in which the drum-head and auditory ossicles had been removed as foreign bodies.

Dr. Reeve, in reply, stated that he now uses the chisel in preference to the drill in operating on the mastoid. Alcohol he considers an excellent antiseptic, and peroxide of hydrogen a valuable cleansing agent.

Dr. G. S. Ryerson read a paper on

#### THE PRACTICAL BEARINGS OF COLOR-BLINDNESS.

He held that the examinations as conducted for the purpose of testing for color-blindness were often inefficient, because such conditions of the atmosphere as fog, steam, mist, etc., obscure vision and lead to considerable variation in the powers of perception in different individuals. The test ought, therefore, to be applied under these conditions. People should be examined repeatedly, because disease or injury may lead to impairment of the function in question.



## TORONTO MEDICAL SOCIETY.

May 7th, 1891.

The President, Dr. Spencer, in the chair.

Dr. Gullen exhibited a patient, a man, æt. 24, suffering from

## DIABETES MELLITUS.

He was in apparent good health until four months ago, when he consulted a doctor because he was losing flesh and strength, and suffered a great deal of pain in the chest. The urine had a specific gravity of 1050, and contained sugar. He was put on opium treatment, but this caused constipation; bromide of arsenic (gr.  $\frac{1}{6}$  in the dose) was administered with good effect, the amount of sugar being reduced, but irritability of the stomach was produced, and even minute doses could not be borne; the specific gravity was reduced under this treatment to 1032. At present the patient's pulse is 96; he has exaggerated pulsation in the carotids, and is highly nervous; specific gravity now is 1042. He passes much more urine than normal; he has not had much thirst, but complains of dryness of the mouth; appetite is good. He has not been losing flesh recently; in fact he seems improved in health.

Dr. Macdonald finds a great deal of difference in the varieties of gluten food in the market. There is a large proportion of starch in many of them.

Dr. Machell thinks the patent foods are all right when first put on the market, when chemists analyse them and give their report, but the standard is not maintained, and the article is subsequently manufactured at a cheap rate. Nestles' food has been found bad in this respect. Dr. Machell has at present under his care in the children's hospital a girl, æt. 11. On admission, she was passing 140-170 oz. urine a day. A special formula for diabetic food was tried as follows: "Six eggs are thoroughly beaten, and then a teaspoonful of baking powder, or its chemical equivalent, and a quarter of a teaspoonful of salt are added, and again the eggs are beaten. This mixture poured into hot waffle-irons smeared with butter is baked in a very hot oven. For variety and to make the biscuits seem more like coarse bread, pulverized nuts, of those permitted, may be added. They may be eaten hot with butter and cheese, but

will remain good for a long time, and nobody would suspect that they were destitute of flour." Within two days the patient began to improve, and she now passes only 60-70 ounces urine per diem. The good results have been attributed mainly to the bread.

Drs. Spencer, Gordon, Macallum, and Thorburn also took part in the discussion.

Dr. Thorburn then read some notes on a case of

## SUPPURATIVE DISEASE OF THE ANTRUM.

The case was that of J.G., æt. 27, captain in the Austrian army. There was a history of an empyema of the antrum, following the extraction of a carious tooth, lasting three years, without causing actual pain, although the pent up fluid was at one time great enough to cause a swelling of the face. The pus was greenish in color, and contained white flakes, which might have been due to the mucous membrane of the antrum secreting fibrin, which appeared as flakes in the pus. Examination for tubercle bacilli at different times yielded negative results. The mucous membrane lining the cavity of the antrum acts as a periosteum to the bone; this became thickened by inflammation and probably became loosened or partially detached from the bone. By means of a curved trochar an opening was made by Dr. Thorburn into the antrum through the thin plate of bone immediately below the inferior turbinated bone, one-eighth inch from its anterior extremity. The trochar was passed upwards, backwards and outwards. On withdrawing the trochar no pus followed. Re-introducing the trochar and giving it a firm push, it was passed one-half inch further into the antrum, and it felt as if it were piercing a bladder partially filled with fluid. Upon withdrawal of the trochar a copious discharge of putrid pus followed. The difficulty at first experienced in introducing the trochar was due to the fact that the thickened lining membrane was pushed before it but was not punctured. The cavity was washed out with creolin, and a vulcanite tube, with a plug at its external orifice, placed in position. Subsequently the cavity was daily washed out with creolin solution; after three weeks the discharge became clear and sweet, the patient's general condition, which had been much deteriorated, improved, and after four months he was discharged cured.

In discussing this paper, Dr. Powell referred to an excellent form of nasal speculum devised by Dr. Palmer, of this city.

Dr. Macdonald has found the use of iodine in washing out the antrum very beneficial; peroxide of hydrogen also. He thinks the cavity should be opened below.

Dr. Primrose referred to a case of Dr. Cameron's in the General Hospital, where suppuration in the antrum occurred combined with a malignant growth. He also referred to a case in his own practice where he had treated suppuration in the antrum occurring secondarily to caries of a molar tooth; this was cured by simply extracting the tooth. The mucous membrane which lines the antrum has been said by Dr. Thorburn to function as periosteum, by affording nutrition to the bone; like periosteum, it is occasionally raised from the bone; pus collecting under it, between it and the bone, leading sometimes to necrosis.

Dr. A. A. Macdonald presented some specimens showing

#### TUBERCULAR ULCERATION OF THE INTESTINE.

This occurred in a patient who exhibited symptoms during life of general tuberculosis. The ulcers are typical tubercular ones.

May 14th.

The President, Dr. Spencer, in the chair.

Dr. Greig showed a specimen of

#### CONGENITAL INTESTINAL OBSTRUCTION.

A woman, pregnant at the seventh month, fell down stairs and sustained a fracture of the fibula. Labor came on a few days after the accident, and the child was born apparently well developed. It was noted soon after birth that the abdomen was unusually large; the child vomited green mucous material, and refused to nurse at the breast. The vomiting continued, and became stercoraceous on the second day; there had been no movement of the bowels; intestinal obstruction was diagnosed, and the patient was submitted to operation. Littre's operation in the right groin was performed; a passage of bowel contents occurred. The child seemed comfortable all day after the operation, but the following morning the child suddenly became collapsed and died. On *post mortem* examination there were signs which indicated that there

had been intra-uterine peritonitis; at one point a thickened band of organized lymph extended from the stomach to the omentum; adhesions between adjacent portions of bowel existed here and there. Extending from the stomach there were two feet of intestine of normal calibre; this ended below in a *cul de sac*. From the rectum there extended up a portion of intestine three feet in length of normal calibre; beyond this and connecting it with the normal bowel above was a portion of intestine not thicker than a lead-pencil; it seemed solid, but on examination was found to have a very small lumen.

Dr. A. A. Macdonald read a paper on

#### AMENORRHOEA.

He spoke of two classes: (1) Those in whom the menses had not appeared; (2) where the menses, having appeared, were subsequently suppressed. The most common cases occurring in practice are, perhaps, those of young girls sent into the city for educational purposes; the tendency is for over-culture without due regard for the necessity for recreation and healthful exercise. The result is often a cessation of menstruation or a delay in the appearance of the menses; the general health suffers, and many of great mental brilliancy are of necessity compelled to give up their studies because of ill-health. Among those in the second class we find girls who are engaged in the higher class of female labor, e.g., telephone girls, stenographers, etc.; these, as a rule, have more pluck than enduring power. Then there is the working girl—employed at the sewing-machine, or at the bench or counter. Other causes are, derangements of nervous system, sudden shock, prolonged mental strain, etc. In considering the treatment, the indications are in most cases to remove the patient to healthy surroundings—tonic treatment, with rest and recreation; there should also be special attention paid to the regulation of the bowels. In difficult cases the application of electricity over the back and in the ovarian region does good; the vaginal electrode should not be used except in older patients. Superinvolution of the uterus and appendages is another cause of suppressed menstruation. In a case in which there was suppressed menstruation for nineteen months, the negative galvanic electrode produced a slight discharge, which, however, Dr. Macdonald considered to be altogether of a local origin.

Dr. Spencer concurred in Dr. Macdonald's remarks; the school girl is victimized. Iron is good, and permanganate of potash is said to be beneficial, but the latter causes griping, which is so persistent that Dr. Spencer has given up its use; a large amount of water combined with it does not prevent the griping.

Dr. Dame has had some encouragement in the results he has had from the use of electricity in superinvolution with suppressed menstruation. Dr. Harrington believes tincture of capsicum to be of special efficacy in these cases. Dr. Noble finds strychnine, arsenic and iron in combination very beneficial. Dr. Macbell stated that the treatment must vary according to the cause and according to the individual peculiarities in the constitutions with which we have to deal. Dr. Cane considers that the amenorrhœa causes a good many cases of insanity. In all such cases, if taken early enough, treatment is successful, and they recover their mental condition.

Dr. Macdonald, in reply, emphasised the statement that the constant current proves of considerable benefit in cases of superinvolution.

Dr. N. A. Powell narrated the following cases of

#### HEMIPLEGIA DURING THE PUERPERIUM.

Case 1. Woman, æt. 27, in her third confinement; labor was tedious, but normal, and she made a fair recovery. The only thing noted was a rapid pulse, 120 per minute; there was no apparent cause, the temperature was normal. Fourteen or fifteen days after she had right hemiplegia she became comatose, and died in twenty-four hours after the onset of the attack. The heart had been examined, but with negative results.

Case 2. Woman, attended by Dr. Harvie, a former pupil of Dr. Powell's. She was all right for two weeks after labor, when she became aphasic, then right hemiplegia. Examination of the heart revealed nothing abnormal; she died soon after the onset of the attack.

The question is, does the puerperal condition stand in causative relation, or is it a mere coincidence? The straining and excitement during labor might lead to the laceration of a cerebral vessel. The evidence, however, seems to show that the rupture of a vessel does not occur, but rather plugging of a vessel by an embolism. The

age of a woman during the child-bearing period would militate against rupture. Some cases recorded are merely aphasia, others hemiplegic. Flint ridicules the idea of administering any kind of drug with the purpose of affecting the clot in the vessel. Richardson, however, advised the administration of ammonia with the object of causing an absorption of the clot. These cases do not seem to be connected in any way with rheumatism.

Dr. Graham has seen hemiplegic patients who dated their hemiplegia from a confinement.

Dr. Cotton exhibited a patient, a man, suffering from

#### EPITHELIOMA OF THE TONGUE.

There was an enlarged gland under the jaw for two weeks. Dr. Cotton has been using electrolysis; the tumor has diminished one-fourth, and is more circumscribed.

## Correspondence.

### ASEPTIC BONE-FILLING.

*Editor of THE CANADIAN PRACTITIONER:*

SIR,—In your last issue I notice a report of a case presented by me at the recent meeting of the Ontario Medical Association. The President having inadvertently declared an adjournment before I had an opportunity of closing the discussion, I would ask you to allow me to make a few remarks.

The advantage derived from the bone-filling in this case was that the cavity filled with new bone in four months (plus one week) instead of taking a very much longer period. The whole of the lower end of the tibia, down to the cartilage, was removed, and the cavity, about  $1\frac{1}{2}$  inches deep, extended up to the upper fourth. The period which would be required to fill up so large a cavity was estimated by Dr. Senn as from seven to twelve months, if the aseptic filling had not been used.

I cannot agree with the statement that the trephine is now, or that it should be, "an obsolete instrument." In this case I found it more expeditious and neater, with a very long cavity detected by the probe and an involucrum nearly three-quarters of an inch thick, to make two trephine openings and saw from the one to the other, instead of chiselling the whole length



of dense, thick bone. Of course the chisel and gouges were also freely used, as also was the sharp spoon for thoroughly scraping the cavity. The latter was rendered thoroughly aseptic; and owing to this and the antiseptic filling, the discharge which subsequently occurred remained inoffensive; and it was not until after the sloughing of integument that the discharge became purulent. The precaution referred to by Dr. Senn, of drawing the edges of the periosteum together, was of course attended to; and the "partial failure"—not getting union by the first intention—was due, as he surmised, to destruction of integument.

It might be worth while to correct a slight inaccuracy which has crept into the history. The patient came down immediately after the injury suffering from severe sprain and much pain. Periostitis, with suppuration, supervened, the first incision being made within a week of the time of the injury, and the bone necrosis manifesting itself within two or three weeks.

The advantages of obtaining, by the method described, an aseptic and antiseptic stage-work to support the subsequent work of repair are so apparent that I thought it desirable to bring the subject more prominently before the attention of members of the Association.

Yours, etc.,

WM. OLDRIGHT.

## Reviews.

*Medical Symbolism.* By T. S. Sozinskey, M.D. Philadelphia: F. A. Davis, Publisher.

Like an oasis in a dry and dusty desert of medical literature, through which we wearily stagger, is this work devoted to medical symbolism and mythology. As the author aptly quotes, "What some light braines may esteem as foolish toys, deeper judgments can and will value as sound and serious matter."

*Fever; its Pathology and Treatment.* By H. A. Hare, M.D., Demonstrator of Therapeutics in the University of Pennsylvania. Philadelphia: F. A. Davis, Publisher.

This is an essay which was awarded the Boylston prize of Harvard University in 1890. It is valuable chiefly as a contribution to our knowledge of the action of coal-tar products on pyrexia.

## Pamphlets and Reprints.

*Seventeenth Annual Report of the Secretary of the State Board of Health of the State of Michigan, 1890.*

*Time Reckoning for the Twentieth Century.* By Sanford Fleming, LL.D. From the Smithsonian Report for 1886. Washington, 1889.

*Sitzungsberichte und Abhandlungen der Naturwissenschaftlichen Gesellschaft Isis in Dresden, 1891.*

*Causation of Influenza.* By H. B. Baker, M.D., Secretary of the State Board of Health of Michigan.

## Personal.

SIR JOSEPH LISTER recently lost \$90,000 through the failure of a London broker to whom he gave his money for investment.

DR. J. C. SMITH (Tor. '91) has entered into partnership with Dr. A. R. Harvie, of Orillia.

DR. C. B. LANGFORD, of Blenheim, has entered into partnership with Dr. Samson of the same place.

## Therapeutic Notes.

APPLICATION FOR DIPHTHERIA.—According to *L'Union Médicale*, Simon recommends the following application in cases of diphtheria:

R.—Salicylic acid . . . 7 to 14 grains.  
Alcohol, a sufficient quantity to dissolve acid.  
Glycerin . . . . 1½ ounces.  
Infusion of eucalyptus . . 2 ounces.

A small piece of absorbent cotton is to be wet with this mixture and applied to the throat and false membranes. The application may be made every three to eight hours during the day, and once or twice during the night. If the false membranes are very adherent, they may be touched up two to four times a day by a solution composed of perchloride of iron and glycerin, of each three drachms. It may also be ad-

visible to irrigate the nostrils and throat with boric acid solution in the strength of four per cent. Internally, he advises the administration of tincture of chloride of iron, in the dose of ten to twenty drops every twenty-four hours, according to the age of the patient. One drop may be given each hour in a little wine or broth.—*Med. News.*

SUMMER DISTURBANCES OF CHILDREN.—In fermentative disorders of the alimentary canal in the young, middle-aged, or old, Listerine has given most satisfactory results. In the summer diarrhoea of children, Dr. I. N. Love, of St. Louis, speaks very highly of it, given in combination with glycerine and simple syrup. A formula that I have time and again used—in fact, it has almost become routine with me of late years—is as follows:

R. Bismuth Sub. Nit. . . . half a drachm.  
Tr. Opil. . . . . twenty drops.  
Syr. Ipecac. . . . .  
Syr. Rhei Arom. . . . aa two drachms.  
Listerine . . . . . half an ounce.  
Mist. Creta . . . . . one ounce.

M. Sig.—Teaspoonful as often as necessary, but not more frequently than every three or four hours. This for children about ten or twelve months old.—D. J. ROBERTS, M. D., in the *Southern Practitioner*.

[NOTE.—“Listerine contains the antiseptic constituents of thyme, eucalyptus, baptisia, gaultheria, and mentha arvensis, with two grains of benzo-boracic acid in each drachm.”]

#### FOR HAY ASTHMA.—

R.—Cocainæ hydrochlor. . . 1½ drachms.  
Glycerini . . . . . 3 fl. drachms.  
Aquæ destil. . . . . 5 “

Sig.: At the outset of the attack make two applications, with an interval of five minutes, by means of a brush, to the accessible nasal mucous membrane.

R.—Cocainæ hydrochlor. . . ½ drachm.  
Benzoini, pulv. . . . . 1½ drachms.  
Sacchari, pulv. . . . . ½ drachm.

Sig.: Use as a snuff.—*L'Union Méd.—Med. News.*

#### SOLUTION FOR THE REMOVAL OF FRECKLES:

R.—Chloride of ammonium . . 1 drachm.  
Hydrochloric acid . . . 1 “  
Glycerin . . . . . 1 ounce.  
Fresh milk . . . . . 2 ounces.

Dissolve, and apply night and morning to the part of the skin which is affected.—*Med. News.*

#### FOR HERPES GENITALIA (Besnier).—

R.—Acidi tannici . . . . ½ drachm.  
Bismuthi subnitrat. . . . 6 grains.  
Pulvis amyli . . . . . 12 drachms.

Sig.: Dust locally the region the seat of the herpes, after washing with diluted carbolyzed water. If ulceration exists, astringent dressings should be used. If the skin is dry, inunctions of vaseline should be used.—*L'Union Méd.—Med. News.*

### Miscellaneous.

CHICAGO PASTEUR INSTITUTE FOR THE PREVENTIVE TREATMENT OF HYDROPHOBIA.—Since the opening of the Chicago Pasteur Institute in the Rush Medical College Building (July 2, 1890), fifty-five persons have received treatment. Thirty-one came from Illinois, ten from Iowa, four from Indiana, two from Ohio, two from Minnesota, one from Missouri, one from Tennessee, two from Kentucky, one from South Dakota, one from Arizona. Thirty-six were male and nineteen female. The youngest patient was two and a half years old and the oldest fifty-six. Fifty-one were bitten by dogs, three by cats, and one by a skunk. Thirty-one persons were bitten in the hands and arms, three in the face, and twenty in the body and legs. Twenty-four had their wounds cauterized with chemical agents, and thirty one had not. Thirty-three persons were bitten by animals recognized and ascertained of being rabid, by experiments made upon rabbits, by the death of persons and other animals bitten by the same, or by symptoms shown during life; and twenty-two persons were bitten by animals strongly suspected of being rabid. All these treated are said to have been cured.

# THE CANADIAN PRACTITIONER

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## Original Communications.

### SURGICAL TREATMENT OF INTUSSUSCEPTION.\*

BY N. SENN, M.D., PH.D., CHICAGO.

Professor of Practice of Surgery and Clinical Surgery in Rush Medical College; Attending Surgeon Presbyterian Hospital.

Intussusception of the bowels is an accident which gives rise to a well-recognized mechanical form of intestinal obstruction, which, like hernia and internal strangulation, should be subjected to early surgical treatment. Early recognition of the existence of invagination is therefore of the greatest importance for successful treatment, as the prospects for successful reduction by ordinary surgical means diminish with the development of secondary pathological conditions at the seat of invagination. Many of the artificial invaginations which I made in animals were reduced spontaneously within a few hours, and in order to study the effects of invagination I had finally to resort to suturing at the neck of the intussusciens in order to permanently retain the invaginated portion. Reduction was resisted after a time either by the swollen oedematous intussusceptum, or by the adhesions at the neck of the intussusciens, or between the serous surfaces throughout the invaginated portion of the bowel. From these observations I have come to the conclusion that reduction by gentle but efficient distention of the bowel below the invagination would succeed in the majority of cases if this procedure were practised before

either of the two principal conditions which cause irreducibility have had time to make their appearance.

*Medical and Dietetic Treatment.*—A strict attention to diet and avoidance of cathartics are important elements in the early treatment of invagination in limiting the invaginating process. After invagination has occurred further descent of the bowel is effected by the increased peristalsis caused by the partial obstruction. If the stomach is distended with food, a salt-water or mustard emetic should be given to empty this organ, after which the patient's diet should be limited to such articles of food as are digested and absorbed by this viscus. If the obstruction has existed for some time and intestinal contents have reached the stomach, the fluid should be removed by using the siphon stomach-tube, after which the organ should be washed out with a mild antiseptic solution, as a one per cent. solution of boracic acid or a saturated aqueous solution of salicylic acid. The administration of cathartics of any kind and at any stage of the affection is to be strongly condemned, as the increased peristalsis following their use could not but increase the invagination and aggravate the secondary pathological conditions. The main object of treatment from the beginning should be to place the whole gastro-intestinal canal in a condition approaching perfect physiological rest. In acute cases the stomach should be emptied as described and stomach feeding restricted to the use of beef tea, peptonized milk, koumiss, and other equally digestible

\*A paper read before the Ontario Medical Association.



articles of food. Rectal injections of infusions of belladonna, nicotiana, cicuta, and other narcotics, as recommended in text-books of only twenty years ago, are not only dangerous but absolutely useless in effecting reduction or modifying the intensity of symptoms. The internal use of opium was strongly recommended by De Haen, Heberden, Howship, A'ercrombie, Schoulein, and others. This drug exercises no special curative effect, but places the intestinal canal, and particularly the affected segment, in a condition most favorable to arrest further invagination; and should spontaneous reduction or disinvagination by surgical interference not be accomplished, the affected part is placed in a condition most favorable for a spontaneous cure by sloughing and elimination of the intussusceptum. The opiate should be given in small and frequently repeated doses until the desired effect—the arrest of the violent peristalsis—is accomplished. With the appearance of peritonitis, the doses of opium must be increased to subdue the intense pain. If signs of exhaustion become apparent, the use of stimulants is indicated. Champagne, cognac, whiskey, and subcutaneous injection of camphorated oil, are most serviceable in meeting this indication during the later stages of the disease.

*Distension of the Colon.*—As soon as the existence of an invagination is suspected, the large intestines should be emptied of their contents by the administration of a copious enema, the patient being placed in the knee-elbow position, as advised by Hegar. Forceful distension of the colon with warm water is recommended in nearly every text-book of surgery since first suggested by Hippocrates as a means of correcting the mechanical difficulties in ileo-cæcal, ileo-colic and colic invagination. Warren, Schillbach, and others, report successful cases treated by this method. It is generally advised that the patient should be held in the inverted position during the time the injection is made. Useful as this measure may prove under favorable circumstances in reducing an invagination below the ileo-cæcal valve, it should never even be attempted if the invagination is located above this point, as numerous experiments on animals have satisfied me that fluids cannot be forced beyond the ileo-cæcal valve, if this is in a normal condition, without inflicting serious injury in the

bowel below the obstruction. The following experiment among others will serve to illustrate the therapeutic value as well as the dangers which attend this method of reducing an invagination:

*Experiment I.*—Adult cat. Two inches of the ileum were invaginated into the colon and fixed by two fine silk sutures at the neck of the intussusciens. For two days after the invagination the stools were scanty and contained mucus and blood. On the third day the abdominal cavity was reopened by an incision along the outer border of the right rectus muscle, and the invaginated bowel drawn forward into the wound. No peritonitis. The invaginated segment was very vascular, and the neck of the intussusciens covered with plastic exudation. The sutures were removed and the rectum and colon distended with water for the purpose of effecting reduction. As soon as the colon had become thoroughly distended the adhesions gave way with an audible noise, and complete reduction followed in such a manner that the portion last invaginated was first reduced. After reduction had been accomplished, the injection was continued to test the competency of the ileo-cæcal valve. As soon as the cæcum was well distended the fluid passed readily through the valve into the small intestine, showing that the valve had been rendered incompetent by the invagination. The force required to overcome the adhesions in the reduction of the invagination was sufficient to rupture the peritoneal coat of the colon in three different places, the rents always taking place parallel to the long axis of the bowel. The animal died on the following day with symptoms of diffuse peritonitis.

A number of years ago I had succeeded in reducing an ileo-cæcal invagination by this means of effecting reposition. The patient was a child, two years of age, which, without any apparent cause, was suddenly attacked with symptoms of intestinal obstruction nearly two days before. The symptoms during this time pointed to invagination. The stools were scanty, mucus tinged with blood, each passage preceded and attended by distressing tenesmus; occasional attacks of vomiting; tympanites slight. Rectal injections had been given which brought away the fecal matter below the

obstruction. A distinct sausage-shaped swelling could be felt in the region of the transverse colon, extending as far as the splenic flexure. While the child was held in an inverted position, warm water was injected into the rectum with an ordinary David-on's syringe. The ascending colon could be distinctly felt after distension, when suddenly in continuing the injection something was felt giving way, and the swelling disappeared quite suddenly. A normal passage from the bowels followed, and the child recovered without any further untoward symptoms. As will be shown further on, distension of the colon with water as a mechanical means of effecting disinvagination in its efficiency and safety is inferior to rectal insufflation of hydrogen gas or atmospheric air, and should be abandoned as a therapeutic measure in the treatment of invagination.

*Manual and Instrumental Reposition.*—As early as 1856 Kade succeeded in reducing a colic invagination in a woman by the introduction of the arm up to the elbow into the rectum and colon. This method of reposition would, of course, only be applicable in the treatment of adults and in invaginations within reach of the hand. The reduction of invagination by the use of an œsophageal sound, or, better, by a strong whalebone probe, the point protected by a sponge, should always be done with the greatest care and gentleness, for fear of inflicting an irreparable injury of the intestine damaged by secondary pathological conditions. It is said that Nyssen reduced successfully a low invagination by the use of an œsophageal tube. As in manual reduction, the use of such instrumental aids should be limited to invaginations in which the neck of the intussusciens can be reached in this manner, or as a preliminary effort in facilitating means by which complete reposition can be accomplished. For instance, in ileo-cæcal and colic invaginations, when the intussusceptum protrudes from the anus, a partial reduction by some such means is necessary before disinvagination can be completed by rectal inflation.

*Rectal Insufflation of Hydrogen Gas.*—Distension of the bowel below the obstruction with filtered air or hydrogen gas is the safest and most efficient means of reducing an invagination that has not been rendered irreducible by

great swelling of the intussusceptum or inflammatory adhesions. This method of reduction is far superior to rectal injections of fluids in overcoming the resistance offered by the invaginated portion of bowel on account of the greater elasticity of the substances employed, which makes it possible to exert an equal degree of reduction force, minus the force required in forcing a column of fluid as far as the seat of invagination. I prefer to use hydrogen gas to atmospheric air, as this substance is not only aseptic, but possesses important inhibitory antiseptic properties, qualities which would be of the greatest importance should the bowel be ruptured in an attempt at reduction. If atmospheric air is used, it should be filtered before it is injected. As gas can be readily forced beyond the ileo-cæcal valve, this method is applicable in the treatment of invagination in any portion of the intestinal canal; and as distension of the intestine below the seat of obstruction may prove successful in correcting the mechanical difficulties due to other causes, it should be resorted to both as a diagnostic and therapeutic measure in the beginning of all cases of intestinal obstruction in which a positive diagnosis of other forms of obstruction cannot be made without it. The *modus operandi* of this surgical resource can be most forcibly shown by the following experiment:

*Experiment 2.*—Large adult cat. Six inches of the ileum were invaginated into the colon. Frequent bloody discharges until the third day, when the abdomen was reopened and the neck of the intussusciens exposed to sight, so as to observe directly the mechanism of disinvagination by rectal insufflation of hydrogen gas. As soon as the colon was well distended, the adhesions at the neck of the intussusciens began to give way, and complete reduction followed under the continuous elastic pressure from below. The abdominal wound was again closed and dressed in the usual manner. The animal recovered completely, and was killed twenty-four days after the first operation. Abdominal wound well united. In the ileo-cæcal region, numerous adhesions around the portion of bowel which had been invaginated and subsequently reduced. As the force necessary to rupture the adhesions and to reduce the bowel produced no injury of any kind to the intestine below and at the seat

of invagination, this experiment would tend to prove that insufflation can be practised successfully in cases of invagination of several days' duration. This procedure should be employed as early as possible, in fact as soon as an invagination is suspected, as the results will be most satisfactory when it can be used before the invaginating process has been arrested by traction of mesentery, oedema, and inflammatory swelling of intussusceptum or plastic adhesions. I am almost convinced that its proper use within a few hours after the accident has occurred would be followed by almost uniform success, and at this stage would be attended by little or no risks. To rupture the peritoneal coat of a healthy intestine by inflation requires from eight to twelve pounds of pressure to the square inch, so that even an intestine weakened somewhat by the secondary lesions would not yield under a pressure sufficient to reduce the invagination. Before the inflation is made, the bowel below the obstruction should be thoroughly emptied by a copious enema. The patient should be placed in such a position that will afford most room in the abdominal cavity. If the hips are elevated, or, still better, if the patient is inverted, the abdominal viscera will gravitate towards the chest and thus render the inflation of the bowel below the obstruction much more easy and efficient. Rectal insufflation of hydrogen gas in the reduction of an invagination should always be made under the influence of an anæsthetic, administered to the extent of complete muscular relaxation. The pressure upon the rubber balloon should be uninterrupted, and should never exceed what will produce two pounds to the square inch in the distended bowel. Disinvagination by this method is effected by two distinct forces. In the first place, the steady elastic pressure of the gas distends the bowel between the sheath and the returning cylinder of the intussusceptum, which makes traction upon the neck of the intussusciens, while the column of gas by its elastic pressure against the apex of the intussusceptum acts as a direct reduction force. In order to accomplish the desired mechanical effect in a most satisfactory manner, the inflation must be made slowly and continuously, as when these precautions are observed there is less danger of rupturing the bowel than when rapid inflation is made under

the same pressure, but with interruptions, and the object of the inflation is more surely realized. The return of the gas is prevented most effectually by an assistant pressing the margins of the anus against the rectal tube. A small gutta percha female syringe makes the best rectal tube. A sudden diminution of pressure always distinctly felt by the assistant who compresses the balloon indicates either that disinvagination has been effected, or that a rupture of the intestine has occurred. It is exceedingly important that the surgeon should satisfy himself of the existence of a rupture, if this accident has occurred. The best way to recognize this complication is to continue the inflation under a pressure of not more than a quarter to half a pound to the square inch. If the invagination has been reduced by the inflation, the intestine above it will become gradually distended by the gas and the tympanites takes place first over the middle of the abdomen and above the pubes, ascending gradually as the inflation is continued, the area of dullness remaining the same but being transferred higher up. If the intestine has given way the gas escapes into the peritoneal cavity, and the existence of the accident is proved by the appearance of a uniform free tympanites with disappearance of liver dullness. In a recent case there is no danger of rupturing the bowel under a pressure of two pounds to the square inch; and in cases where the tissue of the intestinal wall yields under this pressure, the pathological conditions are such that a laparotomy is the only proper remedy; and the occurrence of the accident renders the indication for the performance of the operation imperative, without adding materially to its danger.

The value of rectal insufflation of air or hydrogen gas is well shown by the following two cases which recently came under my observation:

*Case 1.*—The first case was a child, two years of age, which had been quite ill for two days. The attack was sudden, attended by pain in the abdomen, occasional vomiting, slight distension of the abdomen, and tenesmus. Small quantities of faecal matter came away with the injections that had been frequently given to correct the constipation. The tenesmus was usually followed by small mucous discharges tinged with blood. An elongated swelling could be plainly felt in the region of the transverse



colon, and extending down to near that sigmoid flexure. A positive diagnosis of ileo-cæcal invagination was made. The child was placed at once under the influence of chloroform, and while held in the inverted position air was inflated from a large rubber balloon. On carefully watching the effect of the inflation, it could be distinctly observed that the descending colon at first became very prominent, and after this the swelling was forced higher up and gradually became shorter, when suddenly the resistance was overcome, and air rushed through the ileo-cæcal opening into the lower coils of the small intestine. The child was now laid on its back and the abdomen was carefully examined, but no swelling could be found. The place previously dull on percussion, corresponding in location to the invagination, was now resonant, a positive proof that the invagination had been reduced. Within a few hours the child had a number of copious stools and made a speedy and permanent recovery.

*Case 2.*—An infant, six months old. The child had been perfectly well until six hours before it had been brought to me for examination and treatment. I found a colico-rectal invagination, the intussusceptum projecting from the anus at least six inches. It is evident that this extensive descent of the colon had taken place within six hours. The mucous membrane presented a swollen, œdematous and almost livid appearance. The tenesmus was constant and severe; the stools were frequent, but very scanty. The child was at once taken to the hospital, where it was chloroformed, and being held in inverted position the prolapsed portion was pushed upward beyond the anus, after which the invagination was readily reduced in a few minutes by rectal insufflation of air. The invagination did not return, and the child remained in perfect health.

*Colostomy.*—Two indications for the formation of an artificial anus might arise in the treatment of colic invagination: (1) In acute cases, when the general symptoms are so grave as to positively contra-indicate a laparotomy. (2) In irreducible chronic cases, when the lower portion of the colon is invaginated into the upper part of the rectum, where it is impossible to make a resection through the rectum or establish an intestinal anastomosis by lateral apposition. Ac-

cording to the location of the invagination, the operation is made either in the right or left inguinal region; in the former instance the opening being made in the cæcum, and in the latter in the descending colon. After exclusion of the obstruction from the fæcal circulation by this procedure, the patient may not only go on to recovery, but the obstruction is occasionally removed later spontaneously by disinvagination or sloughing and elimination of the intussusceptum. Dubois ("Enterotomie Pratiquee in Extremis,"—*Journal de Med. de Bruxelles*, December, 1878) reports a case of colic intussusception where the invaginated portion could be felt in the region of the sigmoid flexure through the abdominal wall. Colostomy was performed above the seat of obstruction, and the patient not only recovered, but four months later the permeability of the intestinal canal was restored spontaneously, although the artificial opening had not closed.

*Enterostomy.*—The formation of an external intestinal fistula or enterostomy should only be resorted to in irreducible iliac, ileo-colic, and ileo-cæcal invagination when the patient is in such a collapsed condition that more radical measures are inadmissible. As in the majority of cases, the primary seat of invagination is at or below the ileo-cæcal valve; the artificial opening should be made in the right iliac region. Should the invagination be located higher up in the intestinal canal, and an empty collapsed coil of intestine present itself in the incision, it should be pushed aside and search made for a distended loop. An enterostomy is justifiable even when the patient is in an almost pulseless condition as this operation is attended by little, if any, shock, as it could be done in a few minutes, and, if necessary, without an anæsthetic. Emptying the bowel above the seat of obstruction will bring immediate relief by removing abdominal distension, and by favorably influencing the invaginated part by taking away the hydrostatic pressure above the obstruction, which in itself is a potent cause in maintaining vascular engorgement and inflammation. Langenbeck ("Verstellung eines Falles von Geheiltem Enterotomie,"—*Verh. der Deutschen Gesellschaft für Chirurgie*, 1878) saved the life of a patient suffering from invagination of the colon by enterostomy. The invagination had advanced so far

that the apex of the intussusceptum could be felt in the rectum. He performed Nelaton's operation and the patient recovered. Nine months after the operation both the invagination and the artificial intestinal fistula remained. The intestinal fistula in such cases is only made to meet the urgent symptoms caused by the obstruction, and if the patient survives the operation and the invagination is not removed spontaneously subsequently is to be followed by radical measures with the intention of restoring the continuity of the intestinal canal at the seat of obstruction by reducing the invagination, enterectomy, or intestinal anastomosis.

*Laparotomy.*—Remembering that the general mortality of invagination is seventy per cent., and in children less than eleven years of age spontaneous cure by sloughing and elimination of intussusceptum does not exceed twelve per cent., it becomes plain that in cases where reduction is not accomplished by rectal insufflation, as described above, a laparotomy is indicated in all instances where the general condition of the patient is such as to justify such a procedure. There is absolutely no excuse in postponing the operation, as every hour adds to the exhaustion of the patient from the obstruction and adds new dangers, arising from the complications, which are surely to develop at the seat of obstruction. A radical operation undertaken at a time when the pulse is in a fair condition and before septic inflammation has reached the peritoneal cavity holds out a fair prospect of a satisfactory result. It is true that the experience of the past in the operative treatment of invagination is not such as to inspire confidence, but it must not be forgotten that almost without exception the abdomen was opened as a last resort, after the patient had become completely prostrated by the disease, or after the invagination had given rise to irreparable local conditions. Instead of discouraging operative interference, the statistics collected so far are the strongest possible arguments in favor of early operative interference where simpler measures, faithfully carried out, have failed.

Ashhurst ("Laparotomy for Intussusception,"—*American Journal Medical Sciences*, July, 1874, p. 48) brought together, with more or less detail, the histories of thirteen cases in which laparotomy had been undertaken for the relief

of intussusception. Of this number, five recovered and eight died. As the result of a careful study of his cases, he has come to the conclusion that the operation is not admissible in patients less than one year of age, as all operations up to that time done in children less than a year of age proved fatal. He also advises against an operation when the symptoms present, and particularly the existence of intestinal hemorrhage, render it probable that the tightness of the intussusceptum will lead to sloughing of the invaginated portion, as he claims that under these circumstances an operation would almost surely fail, while there is a fair hope that separation of the invaginated mass might lead to spontaneous recovery. Against the special contra-indications of the operation advanced here, it can be said that experience has abundantly shown that cure by spontaneous elimination of the intussusceptum seldom, if ever, takes place in very young children and infants; consequently, the hopelessness of the situation in such cases, where legitimate efforts at reduction have failed, can be advanced as the most logical argument in favor of operative treatment, as the patient and surgeon have nothing to lose and everything to gain. Knaggs (*The Lancet*, June 4th, 11th, 1887), after reporting an unsuccessful case of abdominal section for invagination that occurred in his own practice, gives the results of thirty-seven operations, including his own. Of this number, eight recovered and twenty-nine died. In many of these cases peritonitis had set in before the operation was performed, and this condition and not the operation was answerable for the subsequent fatal issue.

Sands (*New York Medical Journal*, June, 1887) has tabulated the records of twenty-one cases of laparotomy for intussusception, eight of which have occurred since the publication of Ashhurst's paper. Of twenty cases in which the result of the operation is given seven recovered, and thirteen proved fatal, thus showing a mortality of sixty-five per cent. After a study of these cases, he came to the conclusion that the prognosis after operation is also influenced by the age of the patient; thus, of twelve cases of patients two years old or under, three recovered and nine died; of seven cases sixteen years old or over, four recovered and three died;

showing that the mortality of the operation, as would be expected, is greater in infants than in adults. Sands' remarks very properly show that the mortality depends more on the condition of the intestine than the age of the patient. In taking all cases together, he has found that the mortality of the operation is fourteen per cent. in the easy, and ninety-one per cent. in the difficult cases.

Braun (*Verh. der Deutschen Gesellschaft f. Chirurgie*, 1885) tabulated fifty-one operations performed since 1870; that is, operations done under antiseptic precautions. Of this number, eleven were cured and forty died. In twenty-seven of these cases disinvagination was effected, and in twenty-four it was not; of the former, eighteen were children and nine adults. Four children recovered, while fourteen died. Seven adults lived and two died. Resection of the invaginated portion was practised twelve times with only one recovery. An artificial anus was established in nine cases, followed by death in every instance.

The largest number of operations for invagination has been collected by Treves (*The Lancet*, December 13th, 1884). He gives the general mortality in one hundred and thirty-three recorded cases as seventy-two per cent.; where reduction was easy it was thirty per cent., and when difficult ninety-one per cent. No one can look over these tables without noticing that the mortality was greatly influenced by the time which had elapsed since the invagination occurred and the local conditions of the parts involved, as when reduction was easy the results were much more favorable. This fact alone should convince us that laparotomy should be resorted to without delay as soon as a faithful attempt at reduction by rectal insufflation has demonstrated that reduction cannot be accomplished in any other way. The operation should be done as a first, and not as a last, resort.

As in cases of strangulated hernia, the obstacles to reduction become more serious and persistent as time advances, and the danger is augmented in proportion to the time which elapses until reduction is attempted. In reference to the time when the operation should be done, I can only caution against delay and make at the same time the positive statement that as in cases of strangulated hernia it should be done

as soon as it has been shown that reduction is impossible by the employment of simpler measures. The age of the patient should not enter into consideration in deciding upon the propriety of an operation. Sands (*Op. cit.*) operated successfully upon an infant only six months old, where the ordinary treatment by injection and insufflation had been only partially effected in accomplishing disinvagination. The cæcum and appendix vermiformis and a small portion of ileum remained firmly fixed in the sheath, and it required considerable traction force to release them.

Godlee (*The Lancet*, December 16th, 1882) performed abdominal section successfully for invagination in a child nine months old, four days after the commencement of acute symptoms. In this case the invagination had progressed so far that the apex of the intussusceptum protruded at the anus.

Mr. Hutchinson (*Medical Times and Gazette*, November 29th, 1883) narrates the particulars of a successful abdominal section for intussusception in a child two years of age. The invagination had commenced in the ileo-cæcal region, and during the course of one month had advanced so far that the distal end of the intussusceptum was extracted several inches at the child's anus. As rectal injections failed in reducing the bowel, the abdomen was opened by a median incision below the umbilicus, and the intussusception was then easily found and as easily reduced. The child made a rapid recovery.

*Preparations for Operation.*—Instruments, ligature and suture materials should be on hand to make a resection or an intestinal anastomosis, should it be found, inexpedient or impossible to reduce the invagination. As the operation should follow immediately after an unsuccessful attempt at disinvagination, it is advisable to make the necessary preparations for the operation before the insufflation is made, so as to lose no unnecessary time and complete what is to be done while the patient is under the influence of the anæsthetic. As rectal inflation may become necessary to assist the reduction by taxis, the necessary apparatus should be on hand and ready for use. Several sizes of decalcified perforated bone plates must be on hand for making an intestinal anastomosis, should this become



necessary. A large quantity of hot sterilized water, aseptic sponges and aseptic gauze compresses must be provided for, and the necessary stimulants for inhalation and subcutaneous use should be within easy reach, and be used promptly should shock threaten life during a prolonged operation. Should it become necessary to operate in a private house during the night, a good petroleum lamp or a number of tallow candles will furnish the requisite light.

*Incision.*—As a rule, to which there should be no exception, the incision should be made in the median line, as it furnishes the most ready access to the invagination, and enables the operator to apply the various surgical resources with the greatest facility. For special indications, a lateral incision may become necessary during the course of the operation. If the swelling has not been previously located by palpation or insufflation, it is usually not difficult to find the invagination after the abdomen has been opened. As soon as the invaginated part has been found, it should be brought into or as near to the wound as possible for careful examination, as the subsequent action of the surgeon will be guided by the local conditions of the invaginated segment.

*Disinvagination.*—This should always be attempted if, on examination, the neck of the intussusciens and the external cylinder show no evidences of gangrene. The pathological conditions which resist reduction and which must be overcome have already been pointed out. In recent, and especially very acute cases, the œdematous swollen intussusceptum offers the greatest resistance. The same measures should be resorted to to enable reduction, as in the preliminary treatment of a phimosis or paraphimosis. *The œdema and inflammation swelling should be removed before any efforts at reduction are made.* This can be readily accomplished by steady, uninterrupted manual compression of the invaginated portion. Instead of making direct manual compression, it is better to surround the affected segment of bowel with a large flat sponge and make the pressure over this, which will secure a more equal and uniform effect. Prolonged compression also results in an arrest of peristaltic action in the intussusciens, which also favorably influences the disinvagination. As soon as the swelling has been

reduced in this manner, reduction is attempted by making gentle traction upon the bowel above the neck of the intussusciens while counter-traction is made upon the sheath just below the apex of the intussusceptum. The sheath and middle cylinder are often thrown in folds which, by making only traction upon the entering portion of the intussusceptum, are increased and become a serious difficulty in the way of reduction. The traction upon the sheath at the point designated prevents this folding and materially facilitates the process of disinvagination. The hand that makes counter-traction should be used at the same time in making pressure against the apex of the intussusceptum; this can be done most effectually by stretching the sheath over it, thus bringing into harmony two reduction forces at each end of the affected segment of bowel, aiding each other in effecting disinvagination. Should these different methods of taxis produce no effect, inflation is practised; and as soon as the bowel between the returning cylinder and the sheath has become expanded, the efforts are repeated. The utility of combining inflation with taxis in the reduction of an invagination which had resisted the usual methods became apparent to me in the following case, which came under my observation only a few weeks ago.

The patient was a child nineteen months old. Symptoms of obstruction had developed suddenly three weeks before the child was admitted into Milwaukee Hospital for operative treatment. The obstruction never became complete and at no time was the vomiting distressing. Discharges from the bowels frequent, of a seromucous nature, and often stained with blood. Tenesmus not constant, but at times quite severe. Copious injections had been used frequently, but with no effect either in procuring an alvine evacuation or in effecting reduction. At the time the patient was brought into the hospital, the abdomen was slightly tympanitic, a sausage-shaped swelling could be distinctly felt in the region of the transverse colon; face of a deathly pallor, and pulse almost imperceptible; temperature, subnormal. The diagnosis of invagination was plain, but I was somewhat in doubt whether at this stage it would be prudent to make an attempt at reduction by rectal insufflation. As it was evidently a case of ileo-

cæcal invagination, I decided to give this latter procedure a faithful trial: and in case it should not succeed, follow it at once by laparotomy. The child was placed under the influence of chloroform, and while held in an inverted position the insufflation was made by using a large rubber balloon for this purpose. Only a limited quantity of air could be injected, which had the effect of dilating the descending colon, and, at the same time, apparently reduced the length of the intussusceptum. I did not use the amount of pressure I would in a recent case, as I feared that the disease, which had existed for three weeks, had resulted in textural changes of the intussusciens which might have resulted in such weakening of the intestinal wall as to yield under a comparatively safe degree of pressure. After making a gentle but prolonged attempt with this method of reduction and not finding any evidences that unfolding at the neck of the intussusciens was taking place, I opened the abdomen at the middle line between the umbilicus and pubes, and had no difficulty in at once finding the invagination. The cæcum and ascending colon with the lower end of the ileum had become invaginated into the transverse and descending colon. The apex of the intussusceptum could be distinctly felt above the sigmoid flexure. The parts were greatly swollen, and were at once subjected to firm manual compression, which had a decided effect in reducing the swelling. Traction was then made in the manner described above, but had no effect in starting the disinvagination. Inflation was now made and it could be distinctly seen that the space between the returning cylinder of the intussusceptum and the sheath became distended, and the same manipulations repeated, assisted by the elastic pressure, succeeded in forcing the intussusceptum in a backward direction, the adhesions between the serous surfaces giving way as reduction proceeded.

Examination of the bowel after reduction of the invagination showed two small rents of the peritoneum, one corresponding with the neck of the intussusciens and the other below this point: these were closed by a few Lembert sutures. The whole operation, including the insufflation, did not last more than an hour, and the child seemed to recover from the immediate effects in a satisfactory manner. Copious stools

followed. Six hours after the operation the child laughed and played with a doll. Six hours later symptoms of collapse set in, and death followed within an hour. As no *post mortem* was made, it is somewhat difficult to explain the immediate cause of death. It must remain an open question whether the child died from delayed shock, septic peritonitis, embolism, or thrombosis of the pulmonary artery. If firm adhesions about the neck of the intussusciens between the opposed serous surfaces of the two inner cylinders resist reduction, these should be carefully separated before traction is made. Rydygier suggests that this should be done by inserting the index finger. Any one who has had much experience with such cases must have observed that the neck of the intussusciens grasps the bowel very tightly, and that any such efforts as the introduction of a finger would be almost certain to result in a rupture of the bowel. If the treatment, as above directed, does not effect reduction, the presence of firm adhesions must be suspected. Rupture of the bowel has been frequently produced by using too much traction force in attempting reduction, and such an accident should always be avoided by handling the affected segment with the utmost care and gentleness, and by the careful removal of the causes which resist or retard the process of disinvagination. The adhesions should be separated by inserting between the serous surfaces a small, straight, blunt-pointed scissors, or, still better, a Kocher's director, passing it around the whole circumference between the inner and middle cylinders. When the adhesions have been separated, the efforts at reduction by traction and inflation are repeated. After reduction has been effected, the sheath and invaginated portion are subjected to a careful examination. Small circumscribed patches of gangrene must be covered by stitching over them the peritoneum in a transverse direction to the long axis of the bowel with a few Lembert sutures. If the peritoneal coat has given way the rent is always longitudinal, and should be sutured in the same direction. Roser has suggested that before closing the external incision the affected segment of bowel should be sutured to the abdominal wall for the purpose of preventing reinvasion. Under proper after treatment it is not very likely that reinvasion will take

place, and such method of fixation might subsequently result in another form of intestinal obstruction. The fear of recurrence of reinvasion is, however, not entirely unfounded, as Senator reports a case of colic invagination in which it occurred nine times in seventeen days. As a long mesentery is one of the anatomical conditions which permits an invagination to take place, and which favors its recurrence, shortening of this structure suggests itself as the simplest and safest procedure to prevent reinvasion. This can be done in a few minutes by folding upon itself the mesentery belonging to the affected segment of bowel, making the fold parallel to the bowel, and maintaining it by a few catgut sutures. Should repeated but gentle attempts at reduction fail, one of two courses of treatment must then be pursued: (1) The establishment of an intestinal anastomosis. (2) Resection of the invaginated portion with or without circular enterorrhaphy.

*(To be continued.)*

#### QUERY: WHAT IS A PATHOLOGICAL CELL? \*

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It is customary on the part of pathologists to speak of cells in certain conditions as being pathological, or to explain certain cellular phenomena and types of structure as due to pathological conditions. This, of course, assumes that there is a common understanding on the part of pathologists as to the meaning of the term "pathological." There is, however, no such accepted definition, and the absence of it renders inevitable a large amount of confusion. An instance, to illustrate this, was furnished by the statement made recently by a prominent pathologist, that when epithelial cells are in a pathological condition (*e.g.*, in carcinomata) it is not surprising that structures are found in their interior such as some, within the last two years, have described as parasitic, and that the structures in question are the result and not the cause of the pathological condition of the cells. Here it is taken for granted that the words "pathological condition" carry a precise and definite meaning; whereas if we substitute for

"pathological" the word "abnormal," we see that the given statement carries no more reasoning weight than does the following: These non-normal, intracellular structures are present because the cell is abnormal in structure or function. Here is seen an example of play on words, and the necessity for determining what we mean by the word "pathological" is demonstrated.

Perhaps I ought not to be so bold as to attempt a definition of the term "pathological cell." I know, furthermore, that a true definition must be broad enough to cover all conditions of the cell which vary from the normal, and such an essential point leads at first sight to the belief that any such broad definition must be of little value in the close application to individual cases; nevertheless I think we can seize on one principle, that of nutrition, and employ it in elaborating a definition which will be easy of application. This principle is made use of hereafter with special regard to the occurrence of neoplasms, but I believe it has as great a bearing on all abnormal conditions, although, owing to our lack of knowledge of cell metabolism, we may not now be able to extend its application.

All conditions, physical or chemical, which directly affect a cell, influence those processes on which the vital phenomena of the cell are dependent; in other words, influence its nutrition. The latter may thereby be enhanced or diminished, in the case of unicellular organisms, with no further result than that their vitality is increased or diminished; but in multicellular organisms, enhanced nutrition of one cell or of a group of cells out of the whole means the predominance of that cell or group of cells and the consequent overthrow of the nutritional equilibrium, while a diminished nutrition means, other things being equal, as regards a similar group of cells, the nutritional predominance of the remaining cells of the organism.

Before trying to apply this principle in the explanation of the occurrence of neoplasms, we may glance at some of the characters of their cells, and examine some of the explanations offered therefor. As in other cases, the application of the word "pathological" to the condition of the neoplastic cells gives to many pathologists a satisfactory explanation of their occurrence, while others again have been content to refer their vigorous growth to the embry-

\*Read before the Toronto Pathological Society, Feb. 28th, 1891.



onic character of the cells, or to the supposed persistence of portions of embryonic tissue. The latter explanation is no more reasonable than the former, since no generally understood character is supposed to belong to embryonic tissue except its vitality. Lately, however, Minot has pointed out that the embryonic cell is richer in nuclear material and poorer in cell protoplasm than that of the adult organism. It is now generally recognized that the vitality of a cell depends in large measure, if not wholly, on its nucleus. Putting these facts together, it might be assumed that neoplastic cells are, like embryonic cells, rich in nuclear material and poor in cell protoplasm. My own observations lead me to conclude that in neoplastic cells (of, *e.g.*, carcinomata and sarcomata) the special nuclear material, "chromatin," is abundant, but here the parallel between neoplastic and embryonic cells ceases, for the former are, as a rule, rich in cell protoplasm. The only common point between the two classes of cells is the fact that they have both an abundance of chromatin. Cytologists are also, in the main, now agreed that the vital activity, in short, the vitality of a cell depends on the amount of chromatin present in it. That the chromatin of neoplastic cells is abundant, is readily proven by the fact that cell division, which is dependent for its occurrence on the amount of chromatin present, is very frequent, and the divisions are (in sarcomata) frequently so hastened that several stages and divisions are "telescoped," that is, *e.g.*, instead of a cell dividing into two others, four, six, or eight cells are simultaneously formed from it. Nothing can more clearly indicate than this latter fact the correctness of the conclusion that we must refer the vitality of a neoplastic cell to its chromatin, for when a cell instead of forming two daughter cells, as almost always is the case, gives simultaneously rise to four, six, or eight cells, the only inference possible is that in such a cell there is enough chromatin to supply, not two, but four, six, or eight daughter cells at once. It may be mentioned that it is almost wholly in neoplasms (sarcomata) that one finds such multiple divisions. In carcinomata the division is very rarely multiple, but that it is extraordinarily frequent is enough to show that the chromatin is abundant.

Having then determined that in neoplastic

cells there is abundance of chromatin, the abnormal condition of such may be referred to this abundance. What is the cause of this? Have these neoplastic cells inherited or retained from the embryonic condition this abundance of chromatin, as would appear to be postulated by the theory of Cohnheim? As we have just seen, an embryonic cell is rich in nuclear material, *i.e.*, chromatin, and poor in cell protoplasm. Abundance of chromatin in a cell means a capacity for division and multiplication, which immediately manifests itself. Why should an embryonic cell with this capacity persist with its powers dormant—as is supposed to be the case in the carcinomata—till past mid-life of the individual? It might be said that the chromatin in a carcinomatous cell is chemically different from what it is in an embryonic cell, but to assert that is to admit that carcinomatous cells are not embryonic in character. Any other answer to the objection is equally destructive of the theory of the Cohnheim school. Rejecting, then, Cohnheim's explanation mainly on the ground that neoplastic cells are not embryonic in character, and because of the *credo* involved in the application of it, we must look for some other which can be built on the basis of observed fact. We need not go farther for such than the acceptance of the principle above stated, *viz.*, that a cell or a group of cells in an organism is pathological only when the nutrition of such cell or cells is enhanced or diminished beyond that of the surrounding cells, and beyond that usually found in the cells of such localities. I have already frequently referred, in the meetings of this society, to the elements in carcinomatous cells, which are considered by some to be parasitic, by others to be secretions or productions of the cell substance; I propose now to show how the principle just enunciated is exemplified in the case of epithelial cells possessing these intracellular elements. These intracellular elements are sometimes merely masses of chromatin, at other times they are simply leucocytes. It is possible to trace a connected history between these chromatin masses and the enclosed leucocytes; in other words, the latter may, in the interior of an epithelial cell, degenerate and break down, and form chromatin-holding bodies. What effect this has on the cell can be seen when the nucleus of the

latter is examined, but I found the clearest evidence on this point furnished by my studies on the pancreas of amphibia. In nearly every case where a pancreatic cell had swallowed the chromatin of a neighboring disintegrated cell, the nucleus was more or less enlarged and its chromatin increased; the amount of enlargement and of the increase of chromatin varying apparently with the amount of the chromatin assimilated. I have already described this in a published paper\* and will not, therefore, refer more fully to it. In carcinomatous cells we find a similar enlargement of the nucleus and an increase of the chromatin when chromatin masses are present in the cell protoplasm; and just as in the pancreatic cells the nuclear chromatin is reinforced from the assimilated chromatin, so here the abundant chromatin is derived from the contained disintegrated leucocytic elements. The latter point was shown very clearly in preparations from a carcinoma of the prepuce.

Now, whether the chromatin of an epithelial cell is to be increased in quantity will depend on its capacity for overcoming the contained leucocyte. I have already touched on this point in a communication to the society. I am unable to say why a leucocyte enters the interior of another cell; that they do is a demonstrable fact; that they break down in the interior of epithelial cells is as readily demonstrable. It is a reasonable inference, from all the facts at our disposal, that the chromatin of the disintegrated elements is assimilated by the nucleus of the containing cell—providing that the latter retains its original vitality. Such epithelial cells thus acquire a vigor beyond that of their neighbors; the nutrition of the surrounding cells is deranged, more leucocytes wander into the part, some of which contribute in like manner to increase the vitality of some of the cells; in the end the cells become so vigorous that they merit the name malignant, and thus form the primary neoplastic cells. Klebs has stated that there is a direct transference of nuclear material from the leucocytes to the neoplastic cells. I have never seen any instance of such, although I am prepared to admit that it is possible.

What has been said here of the carcinomatous cell is equally true of the other neoplastic ele-

ments; of this I have satisfied myself by observations on the cytology of round, spindle, and giant-celled sarcomata.

Given, then, in a tissue any condition comparable to a minor state of inflammation which lasts for some time, we may expect that some of the cells may become—in the manner described above—neoplastic. It does not matter what is the cause of this inflammatory condition so long as it is more or less chronic; the cause may be parasitic, or it may be a projecting tooth, the pressure of a clay pipe, the presence of soot particles, etc. The inflammation is never very marked, but it is sufficient to bring about in the tissue affected the presence of leucocytes, which contribute to the origin of the neoplastic cells.

I cannot take up here all the points which this aspect of the question presents, but I hope to have again an opportunity to develop these views at fuller length.

As already stated, the nutrition of a cell may be diminished, and when a number of cells, as, for example, those forming an organ, are so affected, *atrophy* may result. Sometimes this lessened nutrition becomes normal, as in the case of the superficial epidermal cells of the skin. On the other hand, the nutrition of every cell in an organism may be diminished, as in starvation. A similar condition is present in every cell of the body in anæmia, chlorosis, etc., a condition the reverse of that in which the neoplastic cell occurs. In the latter chromatin is abundant, but in the former it is manifestly deficient; I say *manifestly*, because the hæmoglobin of the blood is diminished; and as it is derived from the chromatin, it is evident that there is not by any means as much chromatin in the cells of anæmic subjects as there is in the normal cells; hence the *hypoplasia* of chlorosis.

Just as there is an increased supply of chromatin to neoplastic cells, so there may be an excess of cellular or protoplasmic material in neoplastic as well as in other cells. The history of the chromatin supply is, however, more clearly traceable, and its effects directly on the cell more readily demonstrable.

Why leucocytes so contribute to the formation of neoplastic epithelium past mid life, and to the production of connective tissue tumors before that period, is difficult to say. We may put such problems on the same plane with the ques-

\* Contributions to the Morphology and Physiology of the Cell. *Transactions of the Canadian Institute*, vol. 1, part 2.

tion why an individual is liable to diseases in early life to which afterwards he is completely immune.

I have developed here, so far as the limits allow, what I consider as the proper meaning of the term "pathological cell." The view here taken accords well with the generally received opinion that there is no marked line of separation between the physiological and the pathological states; for if the physiological depends on proper nutrition of cells and organisms, then the pathological condition must depend on a deviation from the normal nutrition, and this deviation may at times barely pass beyond the neutral line.

I do not claim that I am advancing a new principle. I think the question of nutrition in pathology has before this been discussed fairly and fully, but its importance has not, I believe, been dwelt on. I claim only that it affords a satisfactory explanation of the occurrence of neoplasms, and that its application to other abnormal cellular conditions will be made when our knowledge of the nutrition of the cell as a whole is much more extended than it is now.

#### NOTE REGARDING EXPLORATION OF THE FEMALE BLADDER.\*

BY J. F. W. ROSS, M.D.

Exploration of the female bladder has been surrounded by an amount of difficulty that can be readily dispensed with. Some recommend vaginal incision as a means of exploration, and this is carried out under an anæsthetic. A cutting operation is required; a fistulous opening remains through which the urine flows, and the patient is inconvenienced. These openings tend to close without difficulty and can be readily closed by subsequent operation. Different methods of urethral dilatation have been from time to time advocated and carried out, with varying success. The endoscope has been highly lauded and serves a good purpose in experienced hands. The same applies with even more force to the electrical cystoscope. I have used all these methods and have been impressed with the usefulness of them all. One day having a class of students examining a woman with symptoms of growth in the bladder, I was able,

without difficulty, to explore the bladder without any cutting operation, without any previous dilatation, without an anæsthetic, and without any temporary or permanent inconvenience to the patient. Having carried out this procedure in several other cases during the past year, I now heartily commend it to the profession. It may be as old as the hills or older. When one is told that a speculum has been dug up among the ruins of Pompeii, one fears that much that is new to this generation is new to this generation only. No doubt the surgeon uses his little finger in entering a sinus before he endeavors to insert his index finger, if the sinus is small. But that fact does not cover the point I wish to make before this Association. The fact is that the first finger, owing to its circumference, is on the very verge of the danger line, while the little finger is removed, by virtue of its lesser circumference, several tenths of an inch further toward the side of safety. When this is so the little finger only should be used, provided it serves every other purpose. The procedure is as follows: Cocaine may be first used as an intra-urethral application. The patient lying on the back with the knees drawn up upon the abdomen, the little finger, with pared and soap-filled nail, and oil smeared, is gradually pressed through the urethra. If unable to enter, previous rapid dilatation may be done with Ellinger's or Palmer's cervical dilator, so that the tip of the finger enters the narrowest part of the meatus. This dilatation should be very limited, and the little finger must be a small one—such as the great majority of surgeons are blessed with. Any of the other fingers are about twice as large in circumference as the little finger. A slight tearing of the meatus upwards towards the clitoris will be produced, but can subsequently be remedied by a little stitch with a fine needle and fine silk. The patient will complain of pain as they do if a catheter is passed, but I have not found this to be excessive, and it is of short duration. The finger gradually finds its way in, but cannot reach far except by means of a special manipulation. The urine should be drawn off before the finger is passed. The first, second and third fingers are all flexed on the palm, and the hand (the right) pronated until by bending the body over slightly the ulnar edge of the arm is toward the ceiling of the room, the upper arm

\*Read before Ontario Medical Association.



at an angle of  $90^\circ$  with the body, and the elbow at an angle of about  $145^\circ$ . The hand is pressed straight upwards, and by holding the fingers as stated it enters between the tuber ischii and allows of easy upward distention or invagination of the perineum. The whole finger thus enters the bladder, the orifices of the ureters can be readily felt, the whole bladder wall can be explored in a few moments, and the patient suffers no inconvenience. I have demonstrated this to a few. My friend, Dr. Barker, one of the house surgeons of the Toronto General Hospital, explored a woman's bladder on April 15th, 1891, in this manner, when the patient was under an anæsthetic. We had just examined another case with the electrical cystoscope and Skene's endoscope, without an anæsthetic; the symptoms were reflex, and we found great tolerance on the part of the bladder. But in the second case it was impossible to fill the bladder with more than two ounces of fluid, owing to the violent contractions occurring even under chloroform. We gave the anæsthetic to endeavor to overcome this, because it is difficult to use the cystoscope unless at least four ounces of fluid are in the organ. The cystoscope now failed to work satisfactorily, and I determined to explore with the finger. This soon showed its superiority over cystoscope, endoscope, or any other instrument. A finger can find more in a few moments than any of these artificial aids. The orifices of both ureters were felt: the bladder wall was smooth and not encrusted; no ulcerated spots could be felt, and no stone or growth was present. Dr. Barker passed his finger for the first time into the female bladder *ante mortem*; he was thoroughly satisfied that every part of the organ could be explored with the little finger, if not distended with fluid, and with the greatest ease. The external split bled a little, but a stitch soon checked the flow of blood. The patient suffered no inconvenience. As I have said before, I have done the little operation in my gynæcological clinic at the Toronto Dispensary without either cocaine or anæsthetic. I have found that if the patient is turned on the side the perineum is more readily indented, but the parts fall away from the finger, and have therefore concluded that the best results can be obtained in the dorsal position, with knees flexed quite up on the abdomen, and the patient

brought near the edge of the examining-table. If a stone be found in such a case, I should open from vagina into bladder and remove it. To my mind, it should never be removed per urethram. Incontinence of urine will occasionally occur from the over-distension required, and it is an incurable disease, and a sort of "living death" affection. Incontinence of urine, surgically produced, is a blot on our art that cannot be effaced. With the careful introduction of a properly-prepared average-sized little finger, I do not believe that incontinence can be produced. A number 16 English sound has a circumference of  $\frac{11}{16}$  inches. My little finger has a circumference of  $\frac{15}{16}$  inches, and my first finger of  $\frac{20}{16}$ , or  $\frac{5}{4}$  inches more. Every trifling increase in size adds to the danger, just as it is the last straw that breaks the camel's back. If the little finger is smaller than the index finger, it should be employed.

Simon found that dilatation might be carried to 6 or  $6\frac{2}{10}$  cent. without danger of incontinence; the greatest dilatation of my little finger is  $4\frac{6}{10}$  cent., while that of my index finger is that of  $6\frac{2}{10}$ . In girls under and about the age of puberty this question of the circumference of the fingers is of still greater importance, because the urethra is smaller. Simon says that where incontinence is of comparatively little importance (where he finds such cases I do not know), a circumference of  $6\frac{5}{10}$  to 7 cent. may be inserted. As few index fingers will go below this figure, I consider that they should never be used—not as long as a surgeon has a little finger left on either hand.

Now, as to the relative reaching power of index and little finger—the perineum catches between the index and second fingers with the radial side of the arm uppermost; the perineum catches between the little and ring fingers, with the ulnar side of the arm uppermost. I measured Professor Howard Kelly's fingers and found, by means of a foot rule pressed up between index and middle fingers and little and ring fingers, only a difference in the reaching power of index and little finger of  $\frac{1}{8}$  of an inch; in my own cases the difference is  $\frac{2}{8}$  inch. You may test your own fingers for your own satisfaction. This little point may have been written up before now, but I have not seen it. Perhaps one would find it among the books of 200 or 300

years ago—books with which we are too ill-acquainted.

You may use this method of exploration without fear, without cutting, without any after trouble, and perhaps even without chloroform. What you find is definite, and you have no further misgivings as to the presence of thickened walls, or encysted stones, or encrusted walls, or ulcers, or new growths. There is no electrical apparatus to get out of order.

I must apologize for bringing such a trivial matter before you. Its only merit is that it is a practical point.

[I find that, given a movable uterus and a Goodell's dilator, one can, under chloroform, explore any uterus with the little finger in a few minutes. Much more forcing and pressure and a rougher manipulation is necessary to get the index finger past the internal os, even when the blades of the dilator have been separated one and a half inches.]

### THE DOSAGE OF TUBERCULIN.

BY PROF. RAMSAY WRIGHT, M.A., B.SC.

Guttman and Ehrlich report in the last number of the *Deutsche Medicinische Wochenschrift* the results of two months observation of the new scheme of dosage adopted by them in the Moabit Hospital, Berlin, and referred to in my letter on page 277 of THE CANADIAN PRACTITIONER.

Beginning with  $\frac{1}{10}$  of a milligramme, daily injections increasing by the same quantity are administered till one milligramme is reached, after which the lymph is given only every two days, the dose being increased, however, on each occasion by  $\frac{2}{10}$  of a milligramme until 2-3 milligrammes are arrived at, when it is considered safe to advance by increments of  $\frac{5}{10}$  milligramme. By this method a dose of one centigramme is reached in about six weeks, and may be persisted in for some time, to be followed, according to Koch's advice, by a gradual descent to a few milligrammes and by a subsequent gradual rise.

The authors claim that this dosage permits the physician to determine the sensitiveness of any particular case to tuberculin (the limits of variation in this respect are very wide), to avoid the weakening febrile reactions to which many unfavorable results have been attributed (the

temperature rarely exceeds  $38^{\circ}\text{C.} = 100.4^{\circ}\text{F.}$ ), while it does not diminish the curative effects of the lymph on tubercular tissue, as can be observed, e.g., in the larynx, but rather favors the avoidance of too intense local reactions.

It is advisable to depart from this scheme in those cases (often hectic) which prove so sensitive to the lymph as to react beyond  $38^{\circ}\text{C.}$  with small doses, by returning to the initial dose of  $\frac{1}{10}$  milligramme and advancing very cautiously to the higher doses which appear to be most active therapeutically. In the less sensitive cases also, where there is no rise of temperature with the initial doses, and where the condition of the patient indicates that the tuberculous process has not advanced far, doses of one milligramme may be reached much more rapidly than by the first-mentioned scale.

Thirty-six cases, of which eighteen were male and eighteen female, thirteen initial and twenty-three more advanced, have been treated by the above method for two months, with the results that thirty-two have gained in weight, the males an average of 6 lbs., the females an average of 8 (improvement as the result of improved nourishment was eliminated by keeping the cases in hospital 1-3 weeks before beginning the treatment). In eleven cases the physical signs were materially improved (complete clearing up of dullness is not to be expected, for the healing process is one of cicatrization). In many cases the sputum is diminished in amount and improved in character, and in four of these the bacilli have disappeared entirely; finally, in most of the thirty-six cases the subjective improvement is very marked. The majority of the cases are so far improved that they could, in part at least, follow their avocations; some indeed have been discharged to permit of this, while several of the cases may be regarded as having entered upon a phase which must lead to a definitive cure. The dosage recommended removes all danger from the treatment of outdoor cases.

**FISSURED NIPPLES.**—Dr. Barton C. Hirst (*Univ. Mag.*) suggests the following application:

R Bismuth subnitrat.  
Olei ricini, aa ʒj.

The nipple and adjacent skin must be carefully cleansed and the ointment then rubbed on liberally.

## Selections.

### TWO CASES OF INGUINAL HERNIA IN INFANTS CURED BY REGULATION OF DIET ALONE.

BY JOHN THOMSON, M.B., F.R.C.P. EDIN.

The following cases appear worth recording on account of one lesson which they teach :

CASE 1.—H. M., æt. 11 weeks, seen first on 15th March, 1889. A delicate, feeble infant, with a small right inguinal hernia, which had appeared three weeks previously. His mother was in the habit of giving him the breast constantly night and day, and feeding him with "biscuit meat" twice daily. He was always crying and slept very little. Some cough. Extreme phimosis, but no pain on micturition.

*Treatment*: Local treatment of the rupture and circumcision were deferred on account of the child's weakness. The mother was told to stop the "biscuit meat," to supplement her breast milk with diluted cow's milk, and to give the breast and bottle at regular intervals.

*Progress*: 22nd March: Has cried much less; sleeps better; hernia as before.

5th April, 1889: Keeping better; hernia quite gone.

May, 1891: No return of the hernia has taken place. Some weeks after last note the child was circumcised on account of pain on passing water.

CASE 2.—J. C., æt. 4 months, seen first on 30th March, 1889. A poorly developed, emaciated baby, with an inguinal hernia on the right side (the size of a large hazel-nut), and extreme phimosis. Cries day and night continually when not sucking the breast; gruel given regularly; no pain on micturition; constipation.

*Treatment*: Stop gruel and give milk and barley water at regular intervals. Application of truss and circumcision deferred on account of weakness.

*Progress*: 10th April: Cries very much less; rupture has been away for a week, but returned to-day.

19th April: Hernia seen again to-day for the first time since last note.

September, 1890: No return of hernia since last note. The phimosis remains as before.

May, 1891: The hernia has never returned, and as the phimosis has not caused any symptoms it has not been operated on.

*Remarks*: In these two cases the usual surgical treatment by trusses and circumcision was deferred until the patients should recover from the wretchedly weak condition in which they were, and so become able to bear it. In both, surgical proceedings were found unnecessary (as far as the hernia was concerned) owing to the rapid disappearance of the condition which followed recovery from dyspepsia and consequent cessation of crying. They are, I think, interesting as enforcing the importance of not neglecting the regulation of the diet as a subsidiary part of the treatment in ordinary cases of hernia in babies.—*Edinburgh Medical Journal*.

BELLADONNA IN LABOR.—Dr. Asher, of Lithgow, New South Wales, advises the use of belladonna in the early stages of labor, having found it of immeasurable benefit, saving considerable pain to the patient and materially diminishing the expected period of the labor. In primiparæ, after a prolonged period of pains of more or less intensity, and with but little dilatation of the os, as well as in the more intense condition of a completely rigid os, where, with extreme contractions, no dilation whatever occurs, he has given large doses of belladonna with marked effect. He usually prescribes a reliable tincture of belladonna in doses of twenty to thirty minims every hour, or oftener; and satisfactory dilatation usually follows the first or second draught.—*The Australasian Medical Gazette*.

VIRCHOW'S SEVENTIETH BIRTHDAY.—Several of the pupils and admirers of Rudolph Virchow have united in appealing to the medical profession of the United States and Canada for contributions to the fund which is being raised in Germany, England, and, it may be said, throughout the world, as a testimonial to be given to Professor Virchow on his seventieth birthday. The German committee proposes that the fund shall be used in procuring a large, gold portrait medal to be presented to Professor Virchow.—*New York Medical Record*.

DR. J. C. CUTHBERTSON, formerly of the *Cincinnati Lancet and Clinic*, has been appointed editor of *The Journal of the American Medical Association*.



# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, JULY 16, 1891.

## INCREASE OF POPULATION IN NORTH AMERICA.

Recent statistics connected with census returns show certain facts which are creating considerable interest among our neighbors in the United States. The last census of the State of Massachusetts proves that the increase of population among the Americans proper is growing less from year to year. In this class more than 20 per cent. are childless, while among foreigners, now living in that country, only 13 per cent. are childless. In the former class, those who bear children generally have small families; in the latter, large families are the rule rather than the exception.

These facts are, of course, not new; they have been recognized for some time, but the evil—if evil it be—is growing. Some think that the boasted culture of the better classes is largely responsible for this condition of decreased fecundity. The educated women direct their energies in the direction of high educational attainments at the expense of their physical strength. A short time ago we referred to the address lately delivered at Albany by Dr. Potter, of Buffalo, which showed the great dangers of modern systems of educating young girls between the ages of fourteen and twenty. The inordinately high pressure put on girls in the various schools is undoubtedly bringing about a deterioration in the physical strength of a large number of such pupils. But fond parents are slow to perceive the evils of such pernicious methods, and physicians, in many cases, pay too little attention to the subject.

Political economists in the United States are

studying the census returns carefully with reference to the effects of these facts on the *great American people*. The question is asked—whither are we going? Will the Americans soon be crowded out of their own country by the rapidly increasing foreign element? Some think that New York may well be called “New Cork.” *The Medical Mirror* asks: “What will the end be?” and adds—“Inviting, as we do, the off-scourings of all creation to come to our land of the free, ceasing to procreate ourselves, the query may well be presented, where will America be a few years from now? Serious questions present themselves, and the best thinkers of the country may well put on their thinking caps.”

## THE INTER-CONTINENTAL AMERICAN MEDICAL CONGRESS.

We have before referred to the proposed formation of an Inter-Continental American Medical Congress. At the last meeting of the American Medical Association, held at Washington in May, it was decided that such a congress should be permanently organized, and a committee was elected to complete the necessary arrangements. This committee, under the chairmanship of Dr. Charles A. L. Reed, of Cincinnati, is now working actively, and desires the hearty co-operation of the profession in all parts of North and South America.

No decision has yet been reached as to the time and place of the meeting of the congress. It is proposed by some that it shall be held in Chicago in 1893, during the great “World’s Fair.” These matters will be decided, and the permanent officers elected at a meeting of the general committee, to be held at St. Louis, Mo., October 14, 1891. At the same time a constitution, which is now being drafted by the officers of the committee, will be submitted for adoption.

We must congratulate Dr. Reed and his committee upon the energy and vigor they have already shown in the work of organizing. We think the idea of holding such a congress is a happy one, and have no doubt that the undertaking will be a success in all respects. We understand that a cordial invitation will be extended to Canadian physicians to lend their assistance, and we hope it will receive a favorable and hearty response.

## CANADIAN MEDICAL ASSOCIATION.

The twenty-fourth annual meeting of the Canadian Medical Association will be held in Montreal, under the presidency of Dr. Thomas Roddick, on Wednesday, Thursday, and Friday, September 16, 17, and 18. The former meetings of this society held in that city have always been exceedingly pleasant and interesting. The physicians and surgeons of Montreal have ever been warm supporters of the organization, and always entertain their visitors in royal style. The last meeting held there will be long remembered by those present as one of the most pleasant and successful medical gatherings this country has known.

The committee of arrangements have already done much work in the way of organizing. Those who are willing to read papers or present cases are requested to communicate with the secretary, Dr. H. S. Birkett, 123 Stanley Street, Montreal, as early as possible. The various railway and steamboat companies have promised to give return tickets at considerably reduced rates. More definite information on these points may be obtained from the secretary.

We hope that Ontario will send a goodly number to the meeting. We regret that the time selected will not suit certain members from Toronto, who have other engagements for that week, but we trust these will not be many. Apart from such considerations, no more suitable season of the year could be found for a meeting in Montreal, as the weather then is usually pleasant and nearly all have returned from their summer holidays. We expect to give further particulars in a later issue.

## LONGER COURSES IN MEDICINE.

It is somewhat remarkable that cheap and inefficient medical schools should have been allowed to exist so long in the United States. While there are some admirable institutions, the great majority are still below par, especially in the matter of their requirements from students. We are glad to see that those excellent teaching bodies, the University of Pennsylvania and the Harvard Medical School, are contemplating a new departure in lengthening their course from three to four sessions.

Harvard has already completed its arrange-

ments for a course of four years, consisting of four sessions of nine months each, the rule to come into effect September, 1892. This will undoubtedly be one of the most complete medical courses given in the world. We hope that this grand old institution will be well supported under the new regulations.

## Meeting of Medical Societies.

## TORONTO MEDICAL SOCIETY.

May 21st.

The President, Dr. Spencer, in the chair.  
Dr. Thomas McKenzie presented two

## BURSÆ PATELLÆ REMOVED FOR LONG-STANDING BURSITIS.

The walls of the bursæ were very much thickened; the patient had suffered for some years, and she presented two very large tumors over the knee, the largest being as large as a medium-sized orange. The bursal sacs contained a small amount of fluid. They were dissected out after making a semi-lunar incision along the outer margin of the patella.

Dr. Peters, who had assisted at the operation, considered the treatment adopted the only one which held out a hope of cure. The lateral semi-lunar incision brings the scar away from the middle line and point of pressure, and is therefore most advantageous.

Dr. A. A. Macdonald presented some specimens of

PHTHISICAL LUNG, NUTMEG LIVER, AND  
ULCERATED INTESTINE,

removed *post mortem* from a patient who had been in the Toronto General Hospital suffering from advanced phthisis.

Dr. Powell exhibited a surgical instrument case, the covers of which could be used as trays to hold antiseptic fluids.

Dr. Spencer narrated the history of a case of  
ABSCCESS OCCURRING IN TYPHOID FEVER.

During the course of the fever an abscess developed in the right hypochondrium, reaching nearly to the iliac crest. It came on during convalescence; the temperature registered 104-105 for ten days. After a copious evacuation from the bowel she improved. Was it possibly an abscess of the liver? Dullness was present

over front and back. There was no pus nor albumin in the urine.

Dr. McPhedran thought the abscess might have had its origin in a mesenteric gland, afterwards rupturing into the bowel; this is borne out by the fact that the enlargement occurred rapidly, more so than it would have done had it been in the liver, another possible source would have been the gland at the junction of the great and small gut, as sometimes occurs after typhoid fever; or it might have been a case of appendicitis.

Dr. Powell referred to a case of abscess formation occurring during pregnancy, and discharging by the vagina after delivery. Its origin was obscure.

May 28th.

The President, Dr. Spencer, in the chair.

Dr. N. A. Powell exhibited a specimen of

#### HORSE-SHOE KIDNEY.

The kidneys are united by their lower extremities by a thick fleshy band which appears to be kidney substance. The ureters lay in front.

Dr. A. A. Macdonald narrated a case of supposed

#### FAT EMBOLISM OCCURRING AFTER SIMPLE FRACTURE

Three weeks and two days ago a strong, active young man fractured the right thigh below the middle. Poroplastic splints were applied with extension. Four days ago, whilst using the bed-pan in the morning, he felt movement and grating at the seat of fracture. He was troubled with a slight cough, and whenever he coughed rubbing and grating was felt. He then felt faint and sent for Dr. Macdonald, who found him at mid-day very faint, pale, and somewhat blue; he seemed to get a little better, but in the afternoon, about three o'clock, he had a severe attack of dyspnoea. Dr. Baines saw him at this time, and found him very exhausted, pale, with a bluish tinge; respiration, 40; pulse, 130; extremities cold, pain across the chest. When Dr. Macdonald saw him at four o'clock he looked so bad that it was thought he was going to die. Nitrite of amyl caused flushing of the face and he vomited; stimulants were freely used. It was first thought that the attack might be hysterical, then it was considered that there must be some obstruction in the circulation.

Dr. Primrose, who saw him at 9 p.m., suggested that the condition might be due to fat embolism, and in this diagnosis Dr. Macdonald was inclined to concur. The patient recovered gradually from the attack.

Dr. Primrose said that the clinical phenomena presented in this case suggested to him fat embolism affecting the pulmonary circulation as the cause. The patient was a strong young man, apparently in excellent health, before the accident. Symptoms of embarrassment in the breathing first manifested themselves at nine in the morning, and gradually increased, with some remissions of relief, until at 6 p.m. the dyspnoea was intense. He was seen by Dr. Primrose first at 9 p.m., twelve hours after the onset of symptoms; he had then improved somewhat, but at that time the pulse was 132; temperature, 97.6; respiration, 34. His respirations were shallow and hurried, his lips were dark, and his face had a slightly cyanotic aspect. An attendant was constantly fanning him. The least exertion tired him exceedingly. During the two hours Dr. Primrose was with him there was some improvement in his condition; this was very gradual, but he breathed more easily at 11 o'clock than he had done at 9.

The diagnosis seems to lie between fat embolism and pulmonary thrombosis. The only point which militates against the idea of fat embolism is that the condition occurred late, namely, three weeks after the accident. Fat embolism usually manifests itself either immediately after fracture or within the first three or four days, and is due to the laceration of tissue and the setting free of fat, more particularly from the medulla of bone; this is absorbed by the veins or lymphatics, and is carried as a large number of minute oil globules to the right side of the heart and pumped on into the pulmonary circulation, where it impedes the blood stream so greatly that intense dyspnoea is the result. The fact that this occurred three weeks after a fracture seemed to throw doubt on the possibility of its being fat embolism, unless there had been some cause for the setting free and absorption of fat. It was noted, however, that there was a cause present in this case; there had been pretty extensive movement at the seat of fracture, the patient experiencing a grating sensation at the point of contact of the fragments. It seems,



therefore, feasible to suppose that this permitted the setting free and absorption of the fat. At such a late date venous thrombosis is more common. This is due to a thrombosis occurring in the veins of the neighborhood; a clot is set free from this and causes an embolism which reaches the right side of the heart and the pulmonary circulation, and dyspnoea results. The cases which Dr. Primorse has been able to find recorded of thrombosis have nearly all proved fatal, they have occurred about the sixteenth to the twentieth day, and have occurred in people above middle age. Then, again, the blocking of a vein in the limb in this way usually causes œdema, of which there was none in this case. Venous thrombosis and embolism is more likely to prove fatal than fat embolism, although Erichsen records a case in which the symptoms subsided in a few hours. There is evidently some possible source of error in the diagnosis of these cases. Thus Verneuil records a case of a man, æt. 60; fracture of both bones of the leg; developed symptoms three and a half weeks after the accident of pulmonary embolism, and died; the existence of a clot was suspected, but the vessels *post mortem* were found entirely free of clot. There is no record of any minute examination of the lungs, and this case therefore might very possibly have been one of fat embolism. That pulmonary embolism does occur, however, at times, has been proved by *post mortem* examination; thus Shanley Boyd records a case of fracture of the metatarsal bones, followed by thrombosis and embolism, and death. Clots of *antemortem* formation were found plugging the pulmonary artery.

Hamilton explains the effect of fat emulsion in the following way: The white corpuscles are of lighter specific gravity than the red, and in consequence pass to the periphery of the blood stream: whilst the red, which are about the same specific gravity as the plasma, pass in the axial stream. In the capillaries the white corpuscles exercise a considerable amount of friction against the vessel wall, and if they are much increased in number will impede the circulation very considerably. They may even bring it to a standstill. Foreign materials may be introduced into the blood which will act in the same way, as evidenced in the effect of air aspirated into veins wounded at the root of the neck, or the

absorption of fat causing fat embolism; this may cause complete blockage of the capillary circulation in the lung. Minich states that fat embolism *invariably* occurs after fracture, except in children, but not sufficient to cause symptoms.

The fat may be absorbed by the veins or lymphatics; according to Wiener, the intervention of the lymphatic glands does not prevent absorption.

The urine may, or may not, contain fat after the occurrence of fat embolism; the presence of fat usually occurs late, some ten days or a fortnight after the symptoms, when the fat is eliminated by the kidneys from the system. Fat embolism has occurred in other conditions besides fracture, e.g., rupture of the fatty liver, extensive injury to the subcutaneous fat, etc.

Dr. Cameron had brought a case before the notice of the society some years ago. The condition, which proved fatal, occurred after a fracture of the rib. Minich and Scriba state that the nearer the fracture be to the heart, the more likely is fat embolism to occur. The assumption that Dr. Macdonald's patient suffered from fat embolism is a fair one, but the occurrence of such symptoms in the third week is consonant with venous thrombosis. The fact of its occurring late, however, in this case, is not a powerful argument against the possibility of its being fat embolism, because the movement at the seat of fracture might have allowed absorption of fat to occur. The condition of fat embolism in the pulmonary circulation rarely proves fatal; it is only when the emboli reach the brain, more particularly the medulla, that a fatal result is apt to ensue. Patients who die late, of "shock" so-called, have often in reality succumbed to the effects of fat embolism. Gangee has shown that the amount of fat in the blood may be enormously increased without giving rise to symptoms.

Dr. Peters considered that at least one-half of the capillaries of the lung must be obstructed before death is caused. Scriba found that fat occurs in the urine on the third day, due to absorption of fat consequent upon the pressure of inflammatory effusion at the seat of injury. The fat again appears in the urine on or about the fourteenth day, when it is eliminated from the pulmonary capillaries. The case reported

is interesting, but the symptoms are more nearly those of venous thrombosis.

Dr. Graham's impression was that the fracture must be severe and comminuted in order to cause fat embolism.

Dr. Primrose considered that it was not necessary to have a severe and extensive comminuted fracture, as evidenced by the fact that a large number of the cases recorded appear to have occurred after fracture of the neck of the thigh bone. The amount of fat absorbed must be enormous; Scriba found that it was necessary to inject an amount of fat three times the weight of the fat contained in the medulla of the femur in order to produce death in animals.

Dr. Macdonald considers that nothing short of a *post mortem* examination would prove the nature of the case beyond a doubt. In answer to Dr. Cameron, he stated that there had been no hæmoptysis in this case.

Dr. Peters narrated the history of a case of  
RUPTURE OF A DEEP VEIN IN THE LEG.

The clinical history will be found at page 297 of THE CANADIAN PRACTITIONER.

Dr. A. A. Macdonald narrated the history of a case of

CONCEALED HEMORRHAGE.

A young primipara had complained of pain constant in character, above the pubes, lasting for about two weeks previous to labor. The doctor was summoned the night labor set in, and found that the pain had become much worse, and the patient was blanched; pulse was feeble and volume poor; the os had barely commenced to dilate, and there was no "apparent hemorrhage." She was watched carefully, and, as the condition did not become any worse, the labor was allowed to proceed without interference until ten o'clock the following morning, when, the os being fully dilated, forceps were applied and the child delivered. A large number of clots came away with the placenta. There was found in the placenta a clot of blood which had become effused into the placenta itself, and had become partially organised. Tarnier records similar cases, and states that the danger to the mother is not great. The patient under Dr. Macdonald's care, however, was undoubtedly in a dangerous condition.

In the discussion which followed, Dr. Machell

referred to fatal cases which have recently been recorded. Dr. Graham asked if it were possible in a healthy woman for sufficient hemorrhage to occur into the uterus to cause fatal results, when the child and placenta were there.

Dr. Macdonald believed that the bleeding, under the circumstances mentioned by Dr. Graham, might be sufficient to cause death.

The Treasurer, Dr. W. J. Greig, read his annual report; and the following officers were elected for the ensuing year:

|                             |   |                                                          |
|-----------------------------|---|----------------------------------------------------------|
| <i>President,</i>           | - | DR. A. A. MACDONALD.                                     |
| <i>1st Vice-President,</i>  |   | DR. N. A. POWELL.                                        |
| <i>2nd Vice-President,</i>  |   | DR. G. A. PETERS.                                        |
| <i>Recording-Secretary,</i> |   | DR. J. M. MACALLUM.                                      |
| <i>Corres.-Secretary,</i>   | - | DR. G. A. FÉRÉ.                                          |
| <i>Councillors,</i>         | - | { DR. R. A. REEVE,<br>DR. H. MACHELL,<br>DR. B. SPENCER. |

## PATHOLOGICAL SOCIETY OF TORONTO.

February 28th, 1891.

The Society met in the Biological Department of the University of Toronto. The chair was occupied by the Vice-President, Dr. A. McPhedran.

### PAGET'S DISEASE OF THE SKULL.

Dr. Thomas McKenzie presented a gross specimen and microscopic sections from a woman who died of pneumonia, æt. 70. The following outline of her history had been received from Dr. Varden, of Galt: "Mrs. M. Father died at 79, mother at 94. No hereditary disease in any of the families. She married at 22, and had three daughters and two sons, two of which died in infancy; the others are still living and well. Her brothers and sisters were healthy and all lived to be old. She came to Canada forty-nine years ago, and was then healthy, erect strong, and active. During her first winter here she took a severe cold and lost the sense of smell. Four years after she had a miscarriage and was confined to bed for six months, and to the house for one year. The doctor in attendance said that a portion of the placenta had been retained, and kept up a constant flooding for six months. She never got strong after this, but was subject to frequent fainting spells and headaches. She also complained of pain in the

eyes, and was prone to be very irritable. Her appetite was good. Her head commenced to enlarge and her back to become deformed about twenty-five years ago; about this time she passed through the menopause. Dr. McKenzie has attended her on three or four occasions during the past four years; she had repeated attacks of bronchitis, and one severe attack of dysentery shortly before she went to the Home for Incurables in Toronto. Her memory was always good. The increase in the size of her head was steady and almost imperceptible in its evenness of development for 22-25 years."

Dr. McKenzie stated further that there was angular curvature in the lumbar region and an exaggerated dorsal curvature. She had chronic bronchitis, but this did not much inconvenience her. Her memory was very fair, though defective for recent events, and she was quite intelligent up to the last. When fresh, the calvarium weighed 36½ ounces. The brain was small and weighed only 36 ounces. The floor of the brain case appeared as though it had been pressed upward; no depression, however, existed on the base of the skull, and the apparent elevation was evidently due to overgrowth of bone. There was marked curvature of both the dorsal and lumbar regions. There were no changes in the long bones or in the bones of the face. The case had been diagnosed as hydrocephalus, and this was favored by the external appearances during life. Sections through the fresh and decalcified bone show marked increase of fibrous tissue, the bone is rarefied to the periosteum, osteoclasts are very numerous, and the haversian canals are almost wholly destroyed, only a few retaining circular luminae about them.

Dr. G. A. Peters said he had seen four specimens of this disease in the College of Surgeons Museum, England. Associated with the skull specimens were the long bones, which showed similar thickening and deformity. The compact tissue of the bones is rarefied. The fact that this patient showed no symptoms of compression agrees with what Paget observed in his five cases. Three out of the five died either of carcinoma or sarcoma. An increase in the curvatures of the spine was present in some cases. Butlin's microscopical report showed that the whole structure of the bone had been absorbed, and it was all laid down again on a larger scale,

the haversian canals being much enlarged. This was shown better in the long bones than in the skull. He thought Dr. McKenzie's specimen showed evidently a condition of rarefying osteitis. The round cells in the fibrous tissue he regarded as those of the red marrow.

Dr. A. B. Macallum said the disease should not be called rarefying osteitis, for the specimen shows that development of bone has gone on to a certain point. Haversian spaces are present, but no haversian canals. The number of osteoclasts is probably not greater than in normal bone. The osteoblasts apparently have not their normal power of bone deposition. The aggregations of round cells he regarded as inflammatory, not as marrow cells.

Dr. I. H. Cameron said the bone was certainly rarefied. The cause might be a neoplastic or an inflammatory one. The fact that in other cases neoplasms had been common might lend support to the former view.

Dr. John Caven asked why are the osteoclasts present? They are usually present in inflammatory conditions, but there is really little inflammation here. Possibly the condition is neoplastic and the osteoclasts are taking on a phagocytic action.

Dr. McKenzie replied, in regard to the osteoclasts, that they are evidently producing a condition normal in the long bone, but abnormal in the skull; namely, taking out the centre while the periphery increases in thickness. There is no evidence of a general inflammatory condition.

#### QUERY: WHAT IS A PATHOLOGICAL CELL?

The communication read by Dr. A. B. Macallum appears at page 326 of THE CANADIAN PRACTITIONER.

Dr. John Caven spoke of the pathological cell in neoplasms. Why should the karyokinetic cells here be asymmetric? In Zeigler's "Beitrag" the fact is mentioned, and he had verified it in his own study, that a considerable number of cells show asymmetrical forms in nuclear division. Must there not be some other element to account for this besides the supply of chromatin?

Dr. I. H. Cameron remarked that if Dr. Caven's observation applied to a simple pathological cell, the asymmetry would mean anæmia of the cell or absence of sufficient pabulum.



Dr. G. A. Peters said that Dr. Macallum's theory gave a very good explanation of the activity of sarcomata and carcinomata where there is mere overgrowth, but it did not explain adenomata, for instance, where there is some definite plan to the growth. Here one would think there must be some nervous control. This theory has been advocated by Dr. Parsons, Mr. John Marshall, and Dr. Macallum.

Dr. Macallum, in reply, said that in regard to the unequal division of the nuclear chromatin, the results of his own studies agreed with those referred to by Dr. Caven. The asymmetry, he thought, was due to the abundance of the chromatin not yet assimilated and the necessity for the cell to divide to make room for it. Chromatin granules were to be seen among the loops of the filament. In the testes of amphibia one sees different varieties of cell division: at certain times of the year chromatin is abundant, and then there is asymmetry of the nuclear division. The same phenomenon has also been observed in keratitis. He held this theory only tentatively.

Dr. John Caven presented the following specimens. (1) Remnant of patent urachus. A small sac at the upper surface of the bladder, lined with a mucous membrane identical with that of the bladder, the muscular coat having not closed in. (2) Double ureter on both sides. The ureters all enter the bladder separately. (3) Intestinal diverticula in the rectum, sigmoid flexure, and descending colon. They are thin-walled and contained fecal matter.

Drs. Cameron, Nevitt, and Olmstead reported having seen cases similar to the last in old people with constipation.

#### KIDNEY, URETER, AND BLADDER, WITH CALCULI.

Dr. John Caven showed these specimens for Dr. H. C. Scadding. The substance of the kidney, pelvis, ureter, and bladder contained a large number of calculi, varying in size from that of a small pea to a hazelnut.

Dr. Cameron, who had been present at the autopsy, reported further that the vermiform appendix was wrapped up in the great omentum, to which it had become adherent. Its lower portion was hard and firm, and on removal it was found to contain an oval mass of impacted fecal matter.

#### MICROSCOPICAL SPECIMENS.

(1) Paget's disease of the skull; sections stained with hæmatoxylin and eosin, by Dr. T. McKenzie. (2) Encephaloid cancer of the breast, and (3) miliary tubercle of the lung, by Dr. John Caven.

### Personal.

DR. FENWICK has resigned his position on the active staff of the Montreal General Hospital, and has been placed on the consulting staff.

DR. GEO. E. ARMSTRONG has been appointed a surgeon on the active staff in the place of Dr. Fenwick.

DR. F. R. ENGLAND has been appointed physician to the Western Hospital, Montreal, in the place of Dr. Trenholme, deceased.

DR. A. LAPHORN SMITH has been appointed Professor of Gynecology in Bishop's College, Montreal, in the place of the late Dr. Trenholme.

DR. F. E. WOOLVERTON, of Hamilton, was married, July 2nd, to Miss Zimmerman.

DR. W. W. KEEN, of Jefferson Medical College, recently received the honorary degree of LL.D. from Brown University.

### Obituary.

SIR PRESCOTT HEWETT, F.R.S., F.R.C.S.—This highly distinguished surgeon died June 22nd, at the ripe age of 79, full of honors. He showed great industry and ability as a student in St. George's Hospital, where he afterwards taught anatomy and pathology before he was made a surgeon. He had to struggle many years before he attained eminence, but finally his success was exceptional. In 1882 he became a baronet, and was Sergeant-Surgeon to Her Majesty, and Surgeon-in-Ordinary to the Prince of Wales.

MR. JAMES R. LANE, formerly well known as a surgeon in St. Mary's, St. Mark's, and the Lock Hospitals, died June 6th. He suffered for many years from locomotor ataxy.

DR. W. A. LAVELL, son of Dr. Michael Lavell, the well-known warden of the Kingston Penitentiary, died suddenly at his home at Smith's Falls, July 2nd. He received his education at the Royal College of Physicians and Surgeons of Kingston, and graduated in 1881.

H. W. SUTTON, M.B. Lond., F.R.C.S., died from pneumonia, following influenza, June 9th, at the age of 55. He was connected with the London Hospital for twenty-four years, and was highly distinguished as a profound pathologist, a great physician, and a most successful teacher. His work with the late Sir William Gull, on "Arterio-Capillary Fibrosis," and his last book on "Medical Pathology," were well known and highly appreciated.

### Births, Marriages, and Deaths.

#### BIRTHS.

COTTON.—At 260 Spadina Avenue, on June 8th, the wife of Dr. James H. Cotton, of a son.

#### MARRIAGES.

FERGUSON-BELL.—T. A. Ferguson, M.D., to Lizzie, second daughter of Mr. E. H. Bell, both of Toronto.

STRUTHERS-BARR.—On the 17th ult., Robt. B. Struthers, M.D., Sudbury, to Miss Harriett E. Barr.

#### DEATHS.

HUNTER.—On January 12th, at 116 Dovercourt Road, Mabel Renwick, eldest daughter of Dr. John and Mrs. Hunter, aged 10 years and 10 months.

### Miscellaneous.

ROTHERHAM HOUSE.—Dr. Holford Walker's Private Hospital, situated on Isabella St., Toronto, is in admirable condition. Great attention has been given to the sanitary arrangements, which are as perfect as modern science can make them. The furnishings and equipments are complete in all respects. There is a trained staff of nurses for medical and surgical cases, and all facilities exist for treatment by massage and electricity. The equipments and facilities referred to are not excelled in any of the private hospitals on this continent; and Dr. Walker's experience in his former large general practice, and his more recent experience with Dr. Weir Mitchell and Mr. Lawson Tait, make him well qualified to successfully conduct such an institution.

## ---Canadian Medical Association---

# TWENTY-FOURTH ANNUAL MEETING

16th, 17th, and 18th September, 1891.

The Twenty-fourth Annual Meeting of the Canadian Medical Association will be held in Montreal, on Wednesday, Thursday, and Friday, 16th, 17th, and 18th September, 1891.

Members desirous of reading papers or presenting cases will kindly communicate with the Secretary, as to the title of paper or nature of case, as early as possible.

Arrangements are being made with the various Railway and Steamboat Companies whereby Members can obtain Return Tickets at considerably reduced rates.

H. S. BIRKETT, Secretary,

123 Stanley Street, MONTREAL.

THE  
CANADIAN PRACTITIONER

FORMERLY "THE CANADIAN JOURNAL OF MEDICAL SCIENCE."

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TORONTO, AUGUST 1, 1891.

Original Communications.

SURGICAL TREATMENT OF INTUSSUSCEPTION.\*

BY N. SENN, M.D., PH.D., CHICAGO,

Professor of Practice of Surgery and Clinical Surgery in Rush Medical College; Attending Surgeon Presbyterian Hospital.

(Continued from last issue.)

*Intestinal Anastomosis.*—An intestinal anastomosis between the bowel above and below the invagination by the use of decalcified perforated bone plates can be made in fifteen to twenty minutes, and at once restores the continuity of the intestinal canal. As soon as the hydrostatic pressure above the obstruction has been removed by this operation, the danger of gangrene is diminished, and the bowel may again become permeable by a subsequent spontaneous reduction or by sloughing and elimination of the intussusceptum. If the invagination remains permanently it does no particular harm, as the obstructed portion has been excluded permanently from the faecal circulation by the anastomosis and undergoes atrophic changes. I have in my possession a number of beautiful specimens of intestinal anastomosis from animals in which I had made an artificial invagination, and subsequently treated them by making an intestinal anastomosis, and I am firmly convinced that the same treatment is applicable in practice and promises good results in the future.

Koreynski ("Zwei Falle von Darminvagination langer Dauer," Virchow u. Hirsch's Jahresbericht,

Bk. 11, 1881, p. 193) reports an exceedingly interesting case where a bimucous fistula was established spontaneously in a case of invagination, followed by a cure. The patient was forty-one years of age, and the symptoms of obstruction had lasted for six weeks, but were completely relieved by the anastomotic opening. The existence of such an opening could be readily verified by digital exploration of the rectum. After the symptoms of obstruction had subsided, the exclusion of a part of the intestinal tract could be ascertained by insufflation of the rectum, which at once produced a tympanitic distension of the colon. A similar but smaller communication was found on *post mortem* examination, as in the case reported by Gerry, previously referred to. Intestinal anastomosis, without resection of the intussusceptum is applicable only in cases of irreducible invagination in which the intussusceptum is only a few inches, at most a foot in length, and in which the external surface of the affected segment shows no indications of the existence of gangrene.

*Enterectomy.*—Resection of all of the cylinders, especially if the invagination is extensive, is a very grave undertaking, as it requires a long time for its execution, a matter of vital importance in these cases, and involves the removal of important parts, and on these accounts should never be resorted to unless the intussusciens show unmistakable evidences of gangrene. The extent of the gangrene is immaterial in reference to the advisability of making a resection, as a small gangrenous spot necessarily

\*A paper read before the Ontario Medical Association.



would lead to perforation and death from septic peritonitis unless this radical measure is carried out. The resection under such circumstances must always include the entire intussusceptum, but not necessarily the entire sheath. The first evidences of gangrene upon the external surface of the bowel usually appear about the neck of the intussusciptions. When the invagination is extensive, and the lower portion of the sheath presents a healthy appearance, it is only necessary to include so much of the extensive cylinder as to insure healthy tissue on the distal side. The sheath is divided by a circular incision below the point presenting evidences of gangrene, the intussusceptum is then drawn out and the entering cylinder divided above the neck of the intussusciptions. The bowel above and below the invagination should be tied with a rubber band, passed through a slit made in the mesentery, to prevent fecal extravasation during the operation. The mesentery corresponding to the section of bowel to be removed should be tied in small sections with fine silk ligatures, as tying in larger sections or with catgut is liable to be followed by hemorrhage. After the resection has been made, it becomes a serious question how to proceed further. Shall the continuity of the intestinal canal be restored at once by suturing, or shall an artificial anus be established? When the resection involves the ileum above and the colon below, it is exceedingly difficult to restore the continuity of the intestinal canal by circular enterorrhaphy on account of the difference in the lumina of the ends to be united. As ileo-cæcal invagination is the most common form, it is evident that, as a rule, some other plan must be followed. Under these circumstances, one of two methods of procedure can be chosen.

*Lateral Implantation.*—The colon at the point of section is inverted to the extent of an inch or more, and permanently closed by making a few stitches of the continued suture, which should embrace only the structures down to the mucous membrane. This will maintain the invagination, and effectually prevents the escape of gas and fecal extravasation, and the iliac or smaller end is implanted into a slit corresponding in size to the circumference of the bowel, made in the colon on the side opposite to the meso-colon, at a point about two inches below

the closed end. Implantation and fixation are most efficiently secured by lining the lower end of the ileum with a soft rubber ring and two inversion sutures of catgut, to which should be added, as a matter of safety, after the iliac end is in place, a superficial continued suture uniting the serous surface of the colon around the opening with the peritoneal coat of the implanted end.

*Enterectomy, followed by Intestinal Anastomosis.*—If lateral implantation cannot be readily done, an equally efficient method consists in closing both ends and establishing continuity of the intestinal canal by lateral apposition with decalcified perforated bone plates in the same manner as has been described under the head of intestinal anastomosis. Restoration of the continuity of the intestinal canal after resection for invagination by lateral implantation or lateral apposition requires much less time than a circular enterorrhaphy, while at the same time both operations secure better conditions for definitive healing than circular suturing, and on these accounts should, under these and similar circumstances, be preferred to the latter procedure. Circular resection also becomes necessary if the invagination has been caused by a malignant tumor, as is so often the case in chronic ileo-cæcal invagination in the adult. As the tumor always occupies the apex of the intussusceptum the operation, to be described below, should be performed if the invagination is extensive and irreducible. If the invagination is limited, or can be reduced, circular resection of the invaginated portion, or of the segment to which the tumor is attached, is indicated. The following case I reported some time ago ("Two Cases of Resection of the Cæcum for Carcinoma, With Remarks on Intestinal Anastomosis in the Ileo-Cæcal Region," *Journal of the American Medical Association*, June 14th, 1890), and illustrates well the difficulties which are often encountered in the operative treatment of invagination caused by carcinoma in the ileo-cæcal region:

*Carcinoma of ileo-cæcal valve with invagination; Resection of cæcum with portion of colon; Restoration of continuity of intestinal canal by ileo-colostomy with absorbable perforated bone plates: Death six days after operation from peritonitis caused by deep ulcers of excluded por-*

*tion of colon.*—Patient was a corpulent married woman, 53 years of age, who was placed under my care at the Milwaukee Hospital, November 14th, 1889, by her physician, Dr. L. Reinhard. She is the mother of eleven children, and had always been in robust health until a year before she was admitted into the hospital. No history of tumors in any member of the family. Her present illness dates back one year, when she was seized by an attack of vomiting without any apparent cause, as even then she was able to take food without causing any discomfort. The vomiting was not attended by nausea, and subsided after a few days without any special treatment. A month later a similar attack recurred, followed again by apparent complete recovery. During the next six months she suffered from similar attacks at intervals of one month, each attack lasting for a few days; between them the patient considered herself well. The intervals then became gradually shorter; at first every two weeks, then every week, and finally, every second or third day. During all this time she never suffered from constipation, the stools being normal in frequency and character. During the last ten months she has lost forty pounds in weight, and the complexion of the face, which formerly was ruddy, has now become pale and yellow. A tumor was discovered five weeks ago in the umbilical region by her attending physician. At that time she suffered a great deal from pain and vomiting, both of which were relieved by a brisk cathartic. From this time on the bowels moved several times a day, the discharge being liquid, but contained at no time either mucus or blood. A number of physicians who examined the patient since the tumor was discovered in the umbilical region made a diagnosis of carcinoma of the stomach, and gave it as their opinion that the tumor involved the great curvature of this organ. Pain and vomiting have been the most prominent symptoms for a number of weeks, and were only partly relieved by subcutaneous injections of large doses of morphia. Although the patient felt more distressed after eating, the vomiting occurred at irregular intervals, and was not always brought on by taking food. A careful examination made the day before operation revealed the presence of a firm movable tumor, somewhat elongated in shape, and about the size of a medium-sized

orange, a little above and to the right of the umbilicus. The tumor could be easily pushed under the costal arch on both sides, and in a downward direction on the right side nearly as far as the iliac region, but not quite as far to the left side. The mobility was less in a lateral direction. The patient was much emaciated and presented an anæmic, almost cachectic, appearance. It was almost the unanimous opinion of those who examined the patient at this time that the tumor, carcinomatous in character, was located in the large curvature of the stomach, but the possibility of carcinoma of the transverse colon was not excluded. The great mobility of the tumor induced me, at the urgent request of the patient and her husband, to make an attempt to remove it in either event. The operation was performed November 14th, 1889. Immediately before the operation the stomach was washed out with a warm saturated aqueous solution of salicylic acid, and, at the same time, morphia and atropia were given subcutaneously. Chloroform was used as an anæsthetic. The abdomen was opened by an incision through the median line, extending from near the ensiform cartilage to the umbilicus. Manual exploration revealed the stomach in a healthy condition, and after careful examination it was ascertained that the tumor consisted of the structures of the ileo-cæcal region, which had become invaginated as far as the middle of the transverse colon. The incision was now enlarged in a downward direction for the purpose of securing more easy access to the seat of invagination. Moderate traction upon the bowel below the apex of the intussusceptum and above the neck of the intussusciens had no effect in reducing the invagination. I now grasped the invaginated portion with both of my hands, and firm compression for a few minutes was made for the purpose of diminishing the swelling by squeezing out the blood and œdema fluid, and thus facilitating the subsequent steps in effecting the invagination. The neck of the intussusciens was dilated by inserting the tip of the index finger at different points. Traction was then made as before and reduction was accomplished, not, however, without making a number of longitudinal lacerations in the peritoneal covering of the intussusciens, the rents extending from its neck in an upward direction for two or three

inches. The invaginated portion was eight inches in length, and was composed of the entire cæcum, a portion of the ascending colon, and a small part of the ileum. An examination of the surface of the intussusceptum showed that the obstacles to reduction were numerous adhesions between the opposed serous surfaces of the intussusceptum and intussusciens, which were forcibly separated during the disinvagination. On submitting the cæcum to a careful examination, it was evident that its interior was occupied by a tumor which appeared to involve the ileo-cæcal opening. The cæcum was therefore opened by a longitudinal incision, and examination of its interior by inspection and digital exploration revealed an ulcerating carcinoma, which occupied the entire ileo-cæcal valve, and had infiltrated a considerable portion of the cæcum. A similar incision was made into the ileum near its insertion into the cæcum, and digital examination through this opening proved that the carcinoma had diminished the size of the ileo-cæcal opening to the diameter of an ordinary lead pencil. Retro-peritoneal and mesenteric glands normal. As the invaginated portion of the colon had been considerably damaged during the reduction of the invagination, it was decided to remove it with the carcinomatous cæcum. Fæcal extravasation was prevented in the same manner as in the preceding case by digital compression of the intestine beyond the line of section. The meso-colon and meso-cæcum were ligated in small sections with fine silk before the parts were excised. The ileum was divided about three inches above its insertion into the cæcum, and the colon about eight inches below the ileo-cæcal valve. Both resected ends were turned inwards about an inch, and the invagination maintained by a few stitches of the continued suture, which embraced only the serous and muscular coats, and one of them also the invaginated mesentery. The continuity of the bowel was restored by an ileo-colostomy, with decalcified perforated bone plates, in the same manner as in the first case, only that in this instance the incision into the colon was made about six inches from its closed end, as the part below this, which had been the intussusciens, could not be trusted in doing its share of the work in establishing the intestinal anastomosis on account of the pathological

conditions which were produced during the time the invagination existed. The peritoneal lacerations which were made during the reduction of the invagination were closed with a few superficial sutures. Scarification of the serous surfaces which were to be included by the plates was done before the approximation sutures were tied, and a number of superficial sutures were applied outside the borders of the plates to aid these in maintaining apposition between a maximum area of serous surfaces. Through the mesentery of the closed resected ends, a suture was passed which was brought out through a button-hole made for drainage in the right iliac fossa, and after the intestine was dropped into the abdominal cavity the approximated portion was drawn into proper position in the ileo-cæcal region by making traction on the suture, and was anchored in this locality by tying the suture over a small roll of iodoform gauze. A rubber drain was inserted through the button-hole, and the abdominal incision closed in the usual manner by two rows of sutures. External dressing was composed of a compress of iodoform gauze and a thick layer of absorbent cotton, which was retained by wide strips of rubber plaster encircling two-thirds of the circumference of the body. Duration of the operation, an hour and a half. The patient reacted well from the immediate effects of the operation, and no untoward symptoms appeared until the end of the third day, when unmistakable symptoms of septic peritonitis developed suddenly, which rapidly increased in intensity as the inflammation became more diffuse. The dressings were now removed, and through the drainage opening pus was sought for, but no fluid could be found. Castor oil was given which procured free evacuation. The peritonitis proved fatal on the third day—six days after operation.

*Post mortem* four hours after death. Abdominal incision united throughout. Omentum displaced towards the right iliac region and adherent to intestines. Separation of the omental adhesions liberated about half a pint of sero-sanguinolent fluid from the right iliac region. A fibrino-plastic peritonitis, which had evidently started near the site of operation, was found to have become diffused from here over the lower portion of the peritoneal cavity, being especially well-marked in the right iliac region. Breaking



down the adhesions the closed end of the colon was found turned in an upward direction, while the seat of approximation occupied the ileo-cæcal region. At a point corresponding to the cut surface of the meso-colon, a disintegrated softened blood clot was found. After removing the coaptated parts with adjacent portion of the colon and ileum, the serous surfaces which had been included between the plates were found firmly adherent throughout, and the superficial sutures completely buried beneath a layer of plastic exudation. On connecting the ileum with a hydrant a large stream of water escaped from the gut end of the colon, showing that the new opening was fully established. On closing the open end of the colon the bowel was forcibly distended without causing any leakage, a positive proof that union between the coaptated surfaces was perfect. The remnants of the plates came away by the irrigation to which the specimen was submitted, the one from the ileum was much softened, while in that from the colon about three-quarters of the margin of the perforation was still intact. On splitting the bowel open on each side where the plates had been, the anastomotic communication could be seen from each side as an oval opening with smooth margins lined with mucous membrane, through which the thumb could be readily inserted as far as the first joint. The approximation sutures remained attached by one of the marginal threads. The most interesting condition was found in the excluded portion of the colon, that is, in that part below the anastomotic opening which formerly had been the intussusciens. An old circular ulcer about a quarter of an inch in diameter, with abrupt indented margins, was found at a point which corresponded to the space between the two layers of peritoneum of the meso-colon. The ulcer had nearly perforated, and the peritoneum covering it was of an ashy-gray color, showing that it was on the verge of necrosis; this point corresponded to the location of the softened blood clot, from where evidently the peritonitis had taken its origin. There can be but little doubt that infection occurred from the ulcer through the necrosed peritoneum, where it was communicated to the blood clot, and from there to the peritoneum. Another ulcer, somewhat smaller in size, was found about an inch higher up in the bowel, and at a

point opposite to the attachment of the meso-colon.

In this case the carcinoma developed in the region of the ileo-cæcal valve, where it infiltrated the entire circumference of the ileo-cæcal opening, thus giving rise to early stenosis and remote symptoms of intestinal obstruction. As the tumor in the umbilical region was only discovered five weeks prior to the operation, it is somewhat uncertain at what time invagination occurred. The great thickening of the wall of both the intussusceptum and the intussusciens, the great vascularity, and especially the numerous firm adhesions, would rather indicate that the invagination had existed for a long time, perhaps six months or a year. The ileum for some distance was slightly dilated, and its walls hypertrophic. The thickening gradually increased as the ileum approached the cæcum. The ulcers which were found in the excluded portion of the colon, and which for obvious reasons I considered the direct cause of the fatal peritonitis, were undoubtedly of long standing, and were caused by the invagination. My only regret in this case is that I did not excise the entire invagination, intussusceptum, and intussusciens, as in case this had been done the patient would not only have recovered from the operation, but would in all probability have been permanently cured. In reference to diagnosis during life, I will repeat that the most urgent and prominent symptoms pointed rather to carcinoma of the stomach than to carcinoma of the cæcum, complicated by invagination. In the aged invagination is frequently caused by the presence of a malignant tumor in the bowel below the ileo-cæcal valve, and the obstruction, like in my case, is usually at first incomplete, and gives rise to a clinical picture suggestive of chronic stenosis.

The absence of blood and mucus in the discharges, of constipation and straining, and the presence of periodical attacks of vomiting, but more especially the great mobility of the tumor, led me to suspect a carcinoma of the great curvature of the stomach rather than the conditions found during the operation. On the supposition that the tumor was located in the stomach, the abdomen was opened by a median incision, which, on being enlarged, afforded ample access to the parts which were to be

treated by operative measures. Had the primary location of the carcinoma been known beforehand and the complication correctly interpreted, it would have been better to make a lateral incision. Adequate drainage, should this be required, can be established more readily after an operation through a lateral than a median incision in operations in the ileo-cæcal region.

In cases of colic invagination requiring an extensive resection, approximation of the two ends is not possible, on account of their distance from each other, and the comparatively slight immobility of this part of the intestine. In such a case lateral implantation is impracticable for the same reasons. The choice lies between the establishment of an artificial anus and lateral apposition; the former should never be made, as in case of recovery of the patient the fæcal fistula would remain as a permanent condition without any prospects of a cure. The continuity of the intestinal canal can be restored at once in these cases by making an ileo-colostomy or a colo-colostomy by lateral apposition with perforated decalcified bone plates, according to the location or extent of the resection.

*Enterectomy and Circular Enterorrhaphy.*—Wassiljew ("Invaginatio Ileo-cæcalis, Laparotomia, Resectio Intestini," Heilung, *Centralblatt f. Chirurgie*, No. 12, 1888) reports a very interesting case of resection for invagination and circular suturing which ultimately terminated in recovery. The patient was a man, aged twenty-five years, who was seized with abdominal pain and vomiting. As the symptoms of obstruction did not yield to ordinary treatment, laparotomy was performed on the second day. On opening the abdominal cavity, a swelling was readily detected in the right hypogastric region. This swelling was drawn forwards, and found to be an extensive invagination of the ileum into the colon. As reduction could not be accomplished, an elastic ligature was tied around the gut in two places and the ileum and mesentery were divided. Then the invaginated portion was readily withdrawn, and about seventeen inches were resected. The abdominal cavity was washed out with a weak solution of sublimate, and the cut ends of the gut were fixed by sutures to the abdominal wound. Much gas and fæcal matter escaped when the ligatures were untied. During the sixth week an operation was performed for the

cure of the artificial anus. About six inches more of the intestine were resected, and the cut ends united by two rows of sutures. On the third day the bowels moved, but on the fifth day the fæcal discharges again escaped through the wound. The different attempts to close the fistulous opening failed. Digital exploration showed that a spur was beginning to form. To this spur a pressure forceps was applied; it fell off on the third day; ultimately the fistula closed.

*Enterectomy; excision of Intussusceptum, followed by Intestinal Anastomosis.*—As a last and distinctly separate class from invagination in reference to operative treatment are cases in which the invagination is extensive and irreducible, with no external evidences of gangrene. Resection of the entire segment is not to be thought of, as death from the immediate effects of the operation would be almost sure to follow. An anastomotic communication between the bowel above and below the obstruction would exclude too much of the intestine permanently from the fæcal circulation, and in many cases it would be impossible or impracticable to make an operation of this kind. In preference to making a permanent artificial anus on the proximal side of the obstruction, I would suggest to remove the intussusceptum through an incision below the neck of the intussusciens, this to be followed by an intestinal anastomosis, uniting the wound made with a similar wound in the bowel above the neck of the intussusciens, the whole operation consisting of three stages: (a) Enterotomy; (b) resection of intussusceptum, and (c) intestinal anastomosis.

The sheath is opened by longitudinal incision about two inches below the neck of the intussusciens on the free convex side of the bowel. This incision must be long enough to enable the extraction of the intussusceptum. A large aneurism needle, armed with a small rubber cord band or tubing, is passed around the intussusceptum, between it and the sheath. This rubber ligature is then tied with sufficient firmness to occlude completely the lumen of the inner cylinder of the intussusceptum, and to constrict the mesenteric vessels, to prevent hemorrhage after resection of the part below it. By making traction upon the ligature the intussusceptum is brought well forward into the incision, when the

anterior half is divided about an inch below the ligature, with straight, blunt-pointed scissors, after which the artery needle is passed around it just below the point of section and the division completed between the ligature and the artery needle. As the external surface of the intussusceptum, covered with mucous membrane, faces the mucous lining of the sheath, adhesions are never present between these structures in recent cases, and extraction of the resected portion of the inner two cylinders can be effected without much difficulty. The ligated stump is dropped into the lumen of the bowel and pushed upwards away from the incision. Disinvagination of the remaining portion of the intussusceptum is prevented by adhesions about the neck of the intussusciens and the rubber ligature, and in the absence of such, a few superficial sutures are applied at the neck of the intussusciens. The obstruction is now complete, but the obstructed segment of bowel is at once excluded from the fecal circulation by making an anastomotic opening between the bowel above and below it. If the incision made for the resection and removal of the intussusceptum is too large for this purpose, it is partly closed by suturing, after which it is united with a similar incision in the bowel, an inch or two above the neck of the intussusciens. The wounds are brought together and held in accurate apposition between two perforated decalcified bone plates, assisted by a number of superficial sutures along the margins of the plates. Complicated as this operation may appear, it is very simple, and can be done in a much shorter time than it would take to make a circular resection, followed by circular suturing. The obstruction, made complete by the operation, is relieved at once completely and permanently by the anastomosis. The ligated portion of the intussusceptum will, of course, become gangrenous, from the elastic constriction, and will later come away with the ligature.

*Excision of the Intussusceptum through the Rectum.*—In cases of invagination of the colon into the rectum, with or without the presence of a tumor, the necessary operative procedure should be done through the rectum. If no tumor is attached to the apex of the intussusceptum, reduction is attempted by rectal insufflation, aided, if necessary, by insertion of the hand into the rectum in adults, and by the use of an

oesophageal tube or a whalebone bougie, the end protected with a sponge, both in adults and children. If these means fail in reducing the invagination, the tumor, if it exists, or the intussusceptum, or both, can be removed through the rectum. The case of Kulenkampff, previously referred to, serves a good example in illustrating this part of the operative treatment of invagination. Bryant (*British Medical Journal*, April 9th, 1887) relates the case of a lady, aged seventy-five, who had been suffering from obstruction, due to a low invagination, for fourteen days. He suspected the existence of a tumor, and this, after much difficulty, was found, drawn down, and removed; the patient making a rapid and permanent recovery.

Barker (*The Lancet*, May 14th, 1887), in a case of invagination of the rectum, due to adenoid epithelioma of that part of the gut, succeeded in drawing down and excising the affected part, and reduced the invagination. The patient made a speedy, and what appeared a permanent, recovery. Three similar cases had been treated previously in the same manner, two by Verneuil, and one by Kulenkampff, only one of them recovering. The case reported by Nicolaysen ("Tumor Carcinomatosus Intestini," S. Romani; "Resektion of S. Romanum," Heltredelse; "Nord. Med. Arkive," Bk. xiv., No. 13) is of special interest as illustrating the course to be pursued when it becomes necessary to resect a portion of the intestine with the tumor. The patient was a woman, forty-nine years old, who had suffered from troublesome constipation and painful defecation for a year, due to chronic invagination of the sigmoid flexure of the colon into the rectum, produced by an epithelioma. Through the rectum a tumor could be felt, which, by traction, could be drawn down to the anus. The diagnosis made was carcinoma of the colon and invagination of colon into rectum. The patient could produce the invagination at will. The extirpation was made by pulling the tumor downwards beyond the anal orifice. The healthy mucous surfaces 2.5, ctm. above the base of the tumor were circumscribed by a row of silk sutures, which were carried through the entire thickness of both intestinal walls. The tumor was excised one ctm. below the sutures; only one artery had to be tied. Posteriorly and on the left of the circular wound the divided



meso-colon could be seen. The wound was accurately united by a superficial continued suture. As soon as the bowel was replaced it retracted as far as the upper portion of the rectum. The patient had recovered after fifteen days, and reported herself well at the end of two and a half months. The intestinal tube removed measured 6.5 ctm. The tumor, under the microscope, showed the typical structure of cylindrical-celled epithelioma.

Mikulicz has devised and described a somewhat similar operation for such cases recently, and reports a successful case. The invagination was of a colico-rectal form; the intussusceptum protruded some distance beyond the anus. He first divided the outer cylinder anteriorly and united the resected end with the inner tube by suturing. The same was then done posteriorly, and when the whole circumference was securely sutured, except at a point corresponding with the mesenteric attachment, the vessels here were tied as fast as they were divided, after which the resection was completed, and finally the mucous membranes were united by a circular continued suture and the bowel returned.

König made the parts in a case of this kind more accessible by making an incision in the perineal raphe and extirpating the coccyx.

#### CONCLUSIONS.

1. Intussusception of the bowels is a strictly surgical affection, and should be treated as such from the beginning, on the same ground as a strangulated hernia.

2. Immediately after the accident has occurred peristaltic action should be arrested by emptying the stomach by an emetic or irrigation, by suspending stomach feeding, combined with the administration of opiates in sufficient doses to procure rest for the bowel at and above the seat of invagination.

3. Prompt arrest of peristalsis procures for the affected part the most favorable conditions to arrest further invagination and to effect spontaneous or artificial reduction.

4. Artificial means to effect disinvagination should be instituted as soon as this form of intestinal obstruction is recognized or even suspected.

5. Rectal insufflation of hydrogen gas or filtered air is the most efficient and safest proce-

dure in reducing the invagination, and, if employed sufficiently early, will prove successful in the majority of cases.

6. Inversion of the patient and complete relaxation of the abdominal muscles by the use of an anæsthetic are important factors in rendering the inflation efficient.

7. Enterostomy and colostomy, according to the seat of the invagination, are only permissible if the patient's general condition does not warrant laparotomy.

8. Laparotomy in all other cases should be done as soon as the irreducibility of the invagination has been demonstrated by rectal insufflation.

9. In acute recent cases the swelling of the intussusceptum, caused by the circular constriction at the neck of the intussusciens, often proves a serious obstacle to reduction, and should be removed as nearly as possible by manual compression made direct or over a large aseptic sponge before attempts are made to reduce the invagination by traction.

10. Reduction of the invagination is accomplished most readily by making traction in opposite directions upon the bowel, above the neck of the intussusciens, and upon the sheath below the apex of the intussusception, combined with pressure against the intussusceptum in a direction from below upwards.

11. If adhesions between the apposed serous surfaces of the inner two cylinders resist reduction, they should be carefully separated with a Kocher's director or a small pair of straight blunt-pointed scissors before traction is made.

12. After reduction has been accomplished the affected segment of the bowel should be carefully examined, and small patches of gangrene or rents of the peritoneal coat covered by stitching the peritoneum over them.

13. Recurrence of invagination is prevented most effectually by shortening the mesentery by folding it in the direction of the bowel, and fastening the fold in this position with a few catgut or fine silk sutures.

14. If the external surface of the bowel presents evidences of gangrene, disinvagination should not be attempted, and in such cases a resection is absolutely indicated.

15. The resection, under such circumstances, should always include the whole intussusceptum,

but only so much of the intussusciens as is threatened by gangrene.

16. If the continuity of the bowel cannot be restored by circular suturing, either on account of the difference in size of the lumina of the resected ends, or inflammatory softening, the same object is attained in an equally satisfactory manner, and more safely, by lateral implantation or intestinal anastomosis.

17. If the invagination is not extensive, but irreducible, and the bowel presents no signs of gangrene, the obstruction should be allowed to remain, and the continuity of the intestinal canal restored by making an anastomotic opening between the bowel above and below the invagination, by the use of perforated decalcified bone plates.

18. If the invagination is extensive, irreducible, and the bowel presents no indications of gangrene externally, the intussusceptum should be made accessible through an incision below the neck of the intussusciens and resected after securing the stump with an elastic ligature, after which the obstruction is permanently excluded by an intestinal anastomosis.

19. In irreducible colico-rectal invagination, or when this form of invagination has been caused by a malignant tumor, the intussusceptum should be drawn downward and removed by the operation devised by Mikulicz.

### REPORT OF FOURTEEN CASES OF APPENDICITIS.\*

BY T. K. HOLMES, M.D., CHATHAM.

The literature of appendicitis is so generally known and so abundant that it would be unfair to occupy the time of this meeting in reiterating what is within the knowledge or reach of all.

The subject has acquired increased interest within the past few years because of the success of the surgical treatment of suitable cases, and it is to place my own experience of the disease before you that I venture to relate the leading features of fourteen cases that I have either seen in consultation or have had under my own care.

The mortality is large, and is doubtless much increased by failure to recognize when medical treatment should end and surgical means begin. I have found great difficulty in deciding this

question, and have not been aided very much in its solution by rules laid down by writers on the subject. Many cases get well under the use of opium, hot fomentations, and perfect quiet; and not a few that seem to be progressing favorably under this plan of treatment suddenly and unexpectedly get worse and die. Of the fourteen cases, one made a slow but apparently a complete recovery under medical treatment, as he is still free from a return of the disease after the lapse of fifteen years; one has had two relapses since the first attack four years ago, being ill at the present time; one recovered after an abscess had formed and burrowed its way beneath Poupart's ligament into the thigh; one died from exhaustion consequent upon obstruction of the bowel, produced by the abscess; one died from rupture of the lower part of the ileum, which had become inflamed and softened by its proximity to an abscess; three died quite suddenly from rupture of an abscess into the peritoneal cavity; and six recovered after evacuation of the abscess by a surgical operation.

In most of the cases in which suppuration occurred, that event was not indicated by violence of pain or by intensity of fever, and those who died unexpectedly had marked amelioration of both before the fatal rupture. This gives five deaths and nine recoveries. All of those operated on recovered. The death rate in this series of cases was doubtless greatly increased by failure to recognize the existence of pus, and to evacuate it before rupture into the general peritoneum. I am satisfied that it is often very difficult, and sometimes impossible, to be certain of the presence of an abscess without an exploratory operation, and very often those most interested will not permit of this until it is too late to afford a chance of success. No cases demand more prompt recognition, or more accurate diagnosis than these, and by one who has seen apparently mild cases progress under medical treatment to a sudden fatal termination, no case can be viewed without apprehension.

*Case 1.*—P. McM., a robust man, æt. 24 years, was attacked with chill, fever, and pain in the abdomen, on October 20th, 1876. The pain was chiefly in the right iliac fossa, but radiated towards the navel. I saw him first on the third day of the illness, and found his temperature 103°, pulse 116, and symptoms as above-

\*Read at the Meeting of the Ontario Medical Association, June 4

mentioned. There was distinct hardness over the cæcum, and dullness on percussion also. The treatment consisted of opium, hot poultices, abstinence from food, and perfect quiet. He gradually recovered, but the hardness and tenderness did not entirely disappear for several weeks. He has had no return of the affection since.

*Case 2.*—Miss H., æt. 18 years, under care of Dr. Bell, of Merlin. I saw her, in consultation, ten days after the onset of the disease. The symptoms had been chill, fever, and pain, as in Case 1. The bowels had been constipated and the abdomen tympanitic, with hardness and dullness in the cæcal region, but as her condition seemed favorable at the time of my visit, no change was suggested in the treatment, which had consisted of opium, rest, and hot fomentations. She made a good recovery. There had been a similar attack about eight months before, and this patient is now suffering from the third attack, and is under the care of Dr. Lyster, of Detroit.

*Case 3.*—W. W., æt. 31, a dentist by profession, had long suffered from constipation, and had on three or four previous occasions had attacks of pain on right side of the lower part of the abdomen. I saw him on account of the present attack on the 2nd of October, 1881, and found that he had been ill five days, complaining of pain in the abdomen, especially about the umbilicus and the right side of the abdomen. The pain was very severe, and there was a good deal of tympanitic distension. The temperature was normal, and continued so throughout the illness, and his pulse did not rise above 90 until a few hours before his death. No localized tenderness could be detected, and the tympanitis caused a resonant sound to be heard over every part of the abdomen. The bowels did not move; there was almost constant nausea, and no nourishment of any kind could be retained on the stomach; hiccough came on three days before his death and he sank from exhaustion. Drs. McKeough and Rutherford visited him with me. At the autopsy an abscess containing about five ounces of dark bluish-grey pus was found behind the junction of ileum with the colon, and pressing on the gut about the ileo-cæcal valve. The diseased appendix was in the abscess cavity. Uncertainty as to

the cause of obstruction prevented surgical interference, which would undoubtedly have been the right course to pursue. The remarkable features of this case were the slow pulse, the absence of fever, and the inability to localize the disease.

*Case 4.*—C. D., a young married man of robust appearance and good health; had never been ill before. On May 21st, 1882, his wife called to say that his appetite had failed, that he had occasional griping pain in his bowels, and that his tongue was very much coated. A purgative was prescribed and nothing more was heard from him until the 23rd, when I saw him for the first time. The bowels had moved freely, but he was still suffering great pain; his temperature was 103° and his pulse 112. The abdomen was tender and tympanitic, and he was very sick at his stomach. The pain was diffused over the abdomen, and no local affection in any one part of the abdomen could be made out. The case was considered one of general peritonitis, and was treated with opium, counter-irritation, hot fomentations, and he was confined to the bed and ordered to use a urinal and a bed-pan if the bowels should move. On the 25th his condition was not materially changed and the same treatment was continued. On June 2nd his temperature was 100°, pulse 98, and the tenderness over the abdomen had abated a good deal, but the tympanitis was extreme; the bowels had not moved nor had any flatus passed. On the night of June 2nd some one persuaded him to take a large dose of Epsom salts, and a few hours after he got out of bed thinking the medicine would act. While straining at stool he felt something rupture in the abdominal cavity, and was immediately lifted into bed, and died in three or four minutes. The autopsy showed general peritonitis, an abscess in the right iliac fossa, and a rupture in the lowest part of the ileum an inch and a half long. The gut for several inches above the rupture was softened and could be torn almost as easily as wet blotting paper. The abscess had not ruptured.

*Case 5.*—F., a young man, æt. 18 years, had always been well until February 5th, 1891, when he began to complain of pain in the right iliac region. His father first consulted me on Feb. 7th, and described the symptoms, which he said were not very severe and had not obliged his



son to remain in bed. I explained the serious nature of appendicitis to the father and enjoined absolute rest in bed, sending him opium to relieve the pain and instructing him to use hot poultices over the painful region. On the 10th his father returned to say that his son was very much better and that he wished to get up and go about as usual again, but in the evening sudden severe pain came on, and then for the first time the family thought it necessary to have him visited. Dr. McKeough went and found him partially collapsed, temperature sub-normal, pain very severe, abdomen distended and tender. He was given opium to relieve pain, but never rallied, dying on the following day. No autopsy could be obtained, but the history of the case leaves little doubt that there had been rupture of a perityphlitic abscess. Laparotomy after rupture is almost a forlorn hope, and when Dr. McKeough saw him it was in the night, and a long distance from the town; before assistance and instruments could have been obtained he was moribund.

*Case 6.*—Louis C., a very strong farmer, æt. 40 years, was first visited on December 20th, 1884, when it was found that he had been complaining of pain in the bowels for a week, but had not been confined to his bed. Examination showed pain in bowels, worse in right iliac fossa, symptoms of general peritonitis, constipation, and a temperature of  $101^{\circ}$ ; his pulse was good, and 86 to the minute. There was a good deal of tympanitis, and the whole abdomen was tender. No hardness could be felt, but his symptoms pointed to inflammation about the cæcum, and the treatment was directed accordingly. His condition seemed to improve until the 24th, when he got out of bed to shut a window, and while walking across the room felt something give way in his right inguinal region. He became collapsed immediately and died in about four hours. No autopsy was made.

*Case 7.*—Miss H., æt. 14 years, was a patient of Dr. Tye, with whom I saw her in consultation, and who gave me a history of the attack. She had been ill about a week with the usual symptoms of perityphlitis, but had apparently been improving, and the acute symptoms of pain and tenderness had abated a good deal, and the fever had also disappeared, when about four o'clock a.m. on March 29th, 1889, she felt a

sudden pain as from rupture of something in the abdomen, and she immediately became collapsed, and on the afternoon of the same day, when I saw her, she was moribund, and died four hours after. No autopsy was made.

*Case 8.*—Frank B., a blacksmith, æt. 47, of good family and personal history. Attack began on August 9th, 1886, with vomiting and purging, headache, and general malaise. Dr. McKeough saw him first on the 12th, and found his pulse 80, temperature  $99.6^{\circ}$ , tongue coated, and pain in the back and limbs. On the 14th his pulse was 89, temperature  $101^{\circ}$ , and he complained of soreness over the whole abdomen, which was slightly tympanitic. On the 16th his pulse was 80, temperature  $102^{\circ}$ , bowels had moved spontaneously every day. Has been taking quinine in antiperiodic doses for five days. 20th: Since the 16th his temperature has varied from  $100^{\circ}$  to  $103^{\circ}$ , and the pulse has never exceeded 90. To-day there is great pain on the upper and inner part of the right thigh, especially where the femoral sheath emerges from beneath Poupart's ligament. There is some tympanitis, but no localized hardness, and the right thigh is flexed, as in typhlitis. 26th: The pain and tenderness in the thigh are less, but it is swollen to nearly twice the size of the left thigh. There are none of the ordinary signs of abscess in the iliac fossa, neither tenderness, swelling, nor hardness; temperature  $100^{\circ}$  to  $102^{\circ}$ , pulse 80. September 12th: On examining the limb to-day, a tumor as large as a small orange was found on the inner side of the thigh, about the junction of the upper with the middle third; it contained gas and some solid matter, and on elevating the limb and making pressure these contents returned into the abdomen with a gurgling noise. The diagnosis, which until now had been in doubt, became clear; perforative ulceration of the cæcum, or upper part of the appendix, had resulted in a fæcal abscess, which had burrowed downwards and escaped beneath Poupart's ligament into the femoral tissue. Pressure, by means of absorbent cotton, along the track of the abscess, and a bandage firmly applied from the foot to the body, with elevation of the limb, constituted the subsequent treatment, and it was entirely successful. He improved steadily and was able to resume work early in December.

*Case 9.*—P. G., a girl six years old, had been ill three weeks with the ordinary symptoms of ulcerative appendicitis, and had been under the care of Dr. Pomeroy, of Dresden, with whom I saw her in consultation. Fluctuation could be detected to the right of the linea alba, and an incision opened directly into the abscess, as adhesion to the anterior abdominal wall was quite firm. Recovery was rapid and complete. The appendix was not seen. There has been no relapse.

*Case 10.*—Wm. D., a farmer, æt. 41 years, whom I saw in consultation with Dr. Bullis, of Dresden, on the 29th of May, 1889. He had been ill two weeks with pain in the abdomen—worse over cæcum—fever, vomiting, and great prostration. There was evidence of an abscess, but not clearly marked. Dr. Bullis administered chloroform and I made an incision about two inches from the anterior superior spinous process of the ileum, cutting downwards towards the ramus of the pubic bone. The wall of the abscess was adherent to the anterior abdominal wall, and was opened into directly. Thorough, gentle irrigation through a drainage tube, and frequent dressing, was carried out, and recovery was rapid, although a sinus continued to discharge for a long time. He had an attack about a year before this one from which he got apparently quite well.

*Case 11.*—W. B., a stout man, æt. 30 years, whom I saw in consultation with Dr. Fraser, of Thamesville, on July 16th, 1889. Dr. Fraser was first called to see him on the 7th of June and found him suffering from severe abdominal pain, which was worse in the right inguinal region, where there was great tenderness on pressure. The abdominal muscles were tense; there was considerable tympanitis, and his temperature was 103°. Opiates were given and hot fomentations were applied, and on the following day an oval-shaped tumor could be felt in this region. Leeches were applied and former treatment continued, and during the next ten days the pain and fever gradually subsided, but the tumor increased in size. On the 23rd he had so far improved as to be able to go to Dr. Fraser's office, and although the tumor continued to enlarge until July the 16th, the date of my visit, he had gained in health. The evidence of pus being now clearly marked, Dr. Fraser

opened directly into the pus cavity, the wall of which was adherent to the anterior abdominal wall. A large rubber drainage tube and frequent douching with boracic acid solution constituted the subsequent treatment, and recovery was rapid and complete.

*Case 12.*—J. B., a delicate boy, æt. 10 years, had been taken ill somewhere in Michigan about six weeks before I saw him. The history of the attack was that of appendicitis, but I could not gain accurate information as to the particulars of it. I saw him first on October 2nd, 1889, and discovered a tumor in the right inguinal region which gave indistinct evidence of fluctuation. An incision over the middle of the swelling opened the abscess, and drainage and daily dressing completed the cure in a month. There has been no return of the disease.

*Case 13.*—Mrs. Wm. W., æt. 45, and the mother of three children. I was called to see this patient on the 28th of June, 1889, by her attending physician, Dr. Caron, of Morpeth, and obtained the following history: She had been in good health until the summer of 1887, when she began to feel slight pain in the right hypochondrium, and occasional feelings of malaise and fever. She was treated for malarial fever most of the summer but got no relief, and gradually grew anæmic and weak. In the spring of 1888 she noticed a tumor in the region of the right kidney, and she consulted several medical men in Detroit and elsewhere during the next ten months. The most experienced of these considered it an enlarged kidney, but did not advise interference with it. I first saw her on the 28th of June, 1889; she was at that time confined to bed; was extremely anæmic; her temperature was normal and her pulse 120. I learned from Dr. Caron that she frequently had slight rise of temperature for a day or two at a time during his attendance on her through the previous four months. She was very much emaciated; her appetite was good at intervals, but indulgence of it was sure to be followed by pain in the bowels, vomiting, and diarrhoea, after which she would be better for a few days. A tumor as large as a double fist occupied the position of the right kidney, extending somewhat lower, towards right inguinal region. It was tender, hard, slightly movable, and she told me that occasionally it became distinctly harder and more

painful than on other days, and that the intense pain always abated with the hardness. This history led me to suspect an abscess communicating with the bowel by a fistulous opening, through which the cavity could be emptied at intervals, or become filled at others, and I advised an exploratory operation, which was not then acceded to, but five days afterwards I was asked to do it. Assisted by Drs. Caron and Shaver, I made an incision parallel with the linea alba, over the most prominent part of the tumor, and opened directly into the peritoneal cavity. Finding the tumor adhered to the anterior abdominal wall, nearest the right side, I closed the opening made in the peritoneum, extended the cutaneous incision by one at right-angle to the first, and then opened directly into the tumor, which proved to be a faecal abscess, and communicated by a small fistula with the ascending colon. The subsequent treatment was carried out by Dr. Caron, and consisted in frequent cleansing through a large drainage tube, and attention to the general health. The faeces passed from the wound for several weeks, but the fistula finally closed, and the alvine evacuations were discharged naturally. She slowly improved for about three or four months, when she accidentally got wet, contracted pneumonia, and died of it after an illness of a few days.

*Case 14.*—W. C., a rather slightly built boy, æt. 11 years, was taken sick on the 5th of May, 1891, with slight pain in the bowels, loss of appetite, and vomiting. His stools were dark colored and offensive. On the 8th his father called on Dr. McKeough for medicine, and was given a purgative. This acted freely and the boy seemed so much better on the 9th and 10th that he was thought by his parents to be in no danger, but on the evening of the 10th the father noticed that his general appearance was bad, and sent for Dr. McKeough, who then saw him for the first time and at once recognized that he was seriously ill, and asked Dr. Fleming and myself to see him. At this time he had a pinched look; his temperature was 103° and his pulse 140 and weak, and his abdomen tympanitic and painful. The pain was diffused, but most felt about the navel. His bowels were quite loose and the stools had been greenish and offensive, but were less so to-day. Counter-irritation, with turpentine, hot poultices, opiates,

quietness, and abstinence from food, were ordered, and on the following day he felt better—his pulse was 108, temperature 99°, and the abdomen presented the same appearance, and was still painful enough to require morphine gr.  $\frac{1}{10}$  every two or three hours. From the 10th until the 18th he seemed better in every way—less pain, temperature varying from normal to 100°, and pulse from 85 to 110—but on the latter night an oval swelling could be detected in the hypogastric region, and rather more marked on the left of the median line. He had retention of urine, was quite tympanitic, and had not been able to retain any nourishment, except chicken broth. Examination per rectum revealed a fluctuating swelling, which extended to both sides of the pelvis. It now became evident that an abscess existed, and that its evacuation should not be delayed. Dr. Eccles, of London, who was asked to see the case early next morning, confirmed the diagnosis, and, with Drs. Fleming and McKeough, assisted at the operation. An opening was made in the median line, midway between the pubis and the umbilicus. The omentum was found inflamed and partially adherent to the parietal peritoneum, and was united by suture wherever adhesion had not occurred. After some difficulty, the sac of the abscess was reached to the right of the median line and about three inches deep. About three ounces of very foetid pus escaped; a drainage tube was inserted and the pus cavity douched well with sterilized water. A hard faecal concretion was washed out; it was as large as a small bean and contained some hard, dark particles in its centre. About fourteen hours after the operation gas escaped from the tube and has continued to do so at intervals ever since. On the third day after the operation small particles of faecal matter came from the wound, and since that time has continued at intervals, although several discharges have passed per anum. After the pus was evacuated, his pulse fell to 84, and his appetite became excellent, but on the 26th he had intermittent griping pains, a good deal of gaseous distension of the bowels, loss of appetite, and a temperature of 101½°, the highest his fever had been since the beginning of his sickness. A saline mixture acted freely, causing a good deal of thin faecal discharge from the wound, and giving great



relief from pain and fever. The pulse also fell from 120 to 86, and in twenty-four hours his appetite returned. It was thought at first that the gas escaped through the ulceration in the appendix, but it may have been that a part of the intestine in close proximity to the abscess, having become weakened by diseased action, gave way when the pressure on the outside of the gut was relieved by the evacuation of the pus. To-day, June 1st, he feels well; pulse 90, temperature normal; very little discharge of any kind from the wound; bowels have moved naturally yesterday and to-day, and his rest and his appetite are good.

## Selections.

### RULES FOR THE MANAGEMENT OF INFANTS DURING THE HOT SEASON.\*

BY WILLIAM GOODELL, M.D., OF PHILADELPHIA.

*Rule 1.*—Bathe the child once a day in tepid water. If it is feeble, sponge it all over twice a day with tepid water, or with tepid water and vinegar. The health of a child depends much upon its cleanliness.

*Rule 2.*—Avoid all tight bandaging. Make the clothing light and cool, and so loose that the child may have free play for its limbs. At night undress it, sponge it, and put on a slip. In the morning remove the slip and dress the child in clean clothes. If this can not be afforded, thoroughly air the day-clothing by hanging it up during the night. Use clean diapers, and change them often. Never dry a soiled one in the nursery or in the sitting-room, and never use one for a second time without first washing it.

*Rule 3.*—The child should sleep by itself in a cot or cradle. It should be put to bed at regular hours, and be early taught to go to sleep without being nursed in the arms. Without the advice of a physician, never give it any *spirits, cordials, carminatives, soothing syrups, or sleeping drops. Thousands of children die every year from the use of these poisons.* If the

child frets and does not sleep, it is either hungry or ill. If ill, it needs a physician. Never quiet it by candy or cake; they are the common causes of diarrhœa and of other troubles.

*Rule 4.*—Give the child plenty of fresh air. In the cool of the morning and evening send it out to the shady sides of broad streets, to the public squares or to the park. Make frequent excursions on the rivers. Whenever it seems to suffer from the heat, let it drink freely of ice water. Keep it out of the room in which washing or cooking is going on. It is excessive heat that destroys the lives of young infants.

*Rule 5.*—Keep your house sweet and clean, cool and well aired. In very hot weather let the windows be open day and night. Do your cooking in the yard, in a shed, in the garret, or in an upper room. Whitewash the walls every spring, and see that the cellar is clear of all rubbish. Let no slop collect to poison the air. Correct all foul smells by pouring carbolic acid or quick-lime into the sinks and privies. The former article can be got from the nearest druggist, who will give the needful directions for its use. Make every effort yourself, and urge your neighbors to keep the gutters of your street or court clean.

*Rule 6.*—*Breast-milk is the only proper food for infants.* If the supply is ample and the child thrives on it, no other kind of food should be given—while the hot weather lasts. If the mother has not enough, she must not wean the child, but give it, besides the breast, goat's or cow's milk, as prepared under Rule 8. Nurse the child once in two or three hours during the day, and as seldom as possible during the night. Always remove the child from the breast as soon as it has fallen asleep. Avoid giving the breast when you are overfatigued or overheated.

*Rule 7.*—If, unfortunately, the child must be brought up by hand, it should be fed on a milk diet alone, and that warm milk out of a nursing bottle, as directed under Rule 8. Goat's milk is the best, and next to it, cow's milk. If the child thrives on this diet, *no other kind of food whatever should be given while the hot weather lasts.* At all seasons of the year, but especially in summer, there is no safe substitute for milk to an infant that has not cut its front teeth. *Sago, arrow-root, potatoes, corn-flour, crackers,*

\*At a meeting of the Obstetrical Society of Philadelphia, held April 3rd, 1873, the undersigned committee was appointed "To consider the Causes and the Prevention of Infant Mortality during the Summer Months." The following rules, drawn up by this committee, were revised and adopted by the society at a meeting held May 1, 1873, and ordered to be published—Dr. William Goodell, chairman; Dr. J. Forsyth Meigs, Dr. John L. Ludlow, Dr. Albert H. Smith, Dr. John S. Parry, Dr. William F. Jenks.

*bread, every patented food, and every article of diet containing starch, cannot and must not be depended on as food for very young infants.* Creeping or walking children must not be allowed to pick up unwholesome food.

*Rule 8.*—Each bottleful of milk should be sweetened by a small lump of loaf-sugar, or by half a teaspoonful of crushed sugar. If the milk is known to be pure, it may have one-fourth part of hot water added to it; but if it is not known to be pure, no water need be added. When the heat of the weather is great, the milk may be given quite cold. Be sure that the milk is unskimmed; have it as fresh as possible, and brought very early in the morning. Before using the pans into which it is to be poured, always scald them with boiling suds. In very hot weather, boil the milk as soon as it comes, and at once put away the vessels holding it in the coolest place in the house—upon ice if it can be afforded, or down a well. Milk carelessly allowed to stand in a warm room soon spoils, and becomes unfit for food.

*Rule 9.*—If the milk should disagree, a table-spoonful of lime-water may be added to each bottleful. Whenever pure milk cannot be got, try the condensed milk, which often answers admirably. It is sold by all the leading druggists and grocers, and may be prepared by adding, without sugar, one teaspoonful or more, according to the age of the child, to six teaspoonfuls of boiling water. Should this disagree, a teaspoonful of arrow-root, of sago, or of corn-starch to the pint of milk may be cautiously tried. If milk in any shape cannot be digested try, for a few days, pure cream diluted with three-fourths or four-fifths of water, returning to the milk as soon as possible.

*Rule 10.*—The nursing-bottle must be kept perfectly clean; otherwise the milk will turn sour, and the child will be made ill. After each meal it should be emptied, rinsed out, taken apart, and the tube, cork, nipple and bottle be placed in clean water, or in water to which a little soda has been added. It is a good plan to have two nursing-bottles, and to use them by turns.

*Rule 11.*—Do not wean a child just before or during the hot weather; nor, as a rule, until after its second summer. If suckling disagrees with the mother, she must not wean the child,

but feed it in part, out of nursing-bottle, on such food as has been directed. However small the supply of breast-milk, provided that it agrees with the child, the mother should carefully keep it up against sickness; it alone will often save the life of a child when everything else fails. When the child is over six months old, the mother may save her strength by giving it one or two meals a day of stale bread and milk, which should be pressed through a sieve and put in a nursing-bottle. When from eight months to a year old, it may have also one meal a day of the yolk of a fresh and rare-boiled egg, or one of beef or mutton broth into which stale bread has been crumbed. When older than this, it can have a little meat finely minced; but even then milk should be its principal food, and not such food as grown-up people eat.

#### BRIEF RULES FOR CASES OF EMERGENCY.

*Rule 1.*—If the child is suddenly attacked with vomiting, purging and prostration, send for a doctor at once. In the meantime, put the child for a few minutes in a hot bath, carefully wipe it dry with a warm towel, and wrap it in warm blankets. If its hands and feet are cold, bottles filled with hot water and wrapped in flannel should be laid against them.

*Rule 2.*—A mush poultice, or one made of flaxseed meal, to which one-quarter part of mustard flour has been added, or flannels wrung out of hot vinegar and water, should be placed over the belly.

*Rule 3.*—Five drops of brandy in a teaspoonful of water may be given every ten or fifteen minutes; but if the vomiting persists, give the brandy in equal parts of milk and lime-water.

*Rule 4.*—If the diarrhoea has just begun, or if it is caused by improper food, a teaspoonful of castor oil or of the spiced syrup of rhubarb should be given.

*Rule 5.*—If the child has been fed partly on the breast and partly on other food, the mother's milk alone must now be used. If the child has been weaned, then it should have pure milk with lime-water, or weak beef-tea, or chicken-water.

*Rule 6.*—The child should be allowed to drink cold water freely.

*Rule 7.*—The soiled diapers or the discharges

should be at once removed from the room, but saved for the physician to examine at his visit.

FOR THE CONVENIENCE OF MOTHERS THE FOLLOWING RECIPES FOR SPECIAL FORMS OF DIET ARE GIVEN.

*Boiled Flour or Flour Ball.*—Take one quart of good flour; tie it up in a pudding-bag so tightly as to get a firm, solid mass; put it into a pot of boiling water early in the morning, and let it boil until bedtime. Then take it out and let it dry. In the morning peel off from the surface and throw away the thin rind of dough, and with a nutmeg grater grate down the hard, dry mass into a powder. Of this, from one to three teaspoonfuls may be used, by first rubbing it into a paste with a little milk, then adding to it about a pint of milk, and, finally, by bringing the whole to just the boiling-point. It must be given through a nursing-bottle.

An excellent food for children who are costive in their bowels may be made by using bran-meal or unbolted flour instead of the white flour, preparing it as above directed.

*Rice Water.*—Wash four tablespoonfuls of rice; put it into two quarts of water, which boil down to one quart, and then add sugar and a little nutmeg. This makes a pleasant drink.

A half-pint or a pint of milk added to this, just before taking it from the fire, and allowed to come to a boil, gives a nourishing food suitable for cases of diarrhoea.

Sago, tapioca, barley, and cracked-corn, can be prepared in the same manner.

*Beef Tea.*—Take one pound of juicy, lean beef—say a piece off the shoulder or the round—and mince it up with a sharp knife on a board or a mincing-block. Then put it with its juice into an earthen vessel containing a pint of tepid water, and let it stand for two hours. Strain off the liquid through a clean cloth, squeezing well the meat, and add a little salt. Place the whole of the juice thus obtained over the fire, but remove it as soon as it has become browned. Never let it boil; otherwise most of the nutritious matter of the beef will be thrown down as a sediment. Prepared in this way the whole nourishment of the beef is retained in the tea, making a pleasant and palatable food. A little pepper or allspice may be added if preferred.

*Mutton Tea.*—May be prepared in the same

way. It makes an agreeable change when the patient has become tired of beef tea.

*Raw Beef for Children.*—Take half a pound of juicy beef, free from any fat; mince it up very finely; then rub it up into a smooth pulp either in a mortar or with an ordinary potato masher. Spread a little out upon a plate and sprinkle over it some salt, or some sugar if the child prefers it. Give it with a teaspoon or upon a buttered slice of stale bread. It makes an excellent food for children with dysentery.—*Annals of Hygiene.*—*New Orleans Medical and Surgical Journal.*

COCAINE IN SURGICAL PRACTICE.—At a recent meeting of the Pirogovian Russian Surgical Society, Dr. Zmigrodski, house surgeon to the Petropavlovskaja Bolnitsa in St. Petersburg, has read a highly interesting and suggestive paper on the subject, based on his personal extensive observations, as well as on those of a distinguished colleague of his, Dr. K. P. Dombrowski. Since July, 1887, in the said hospital cocaine has been systematically resorted to in all surgical operations, being employed alone in minor ones, and in conjunction with chloroform anæsthesia in those of a more serious nature. As practised by Dr. Dombrowski and himself, the "mixed narcosis" is usually commenced with the administration of chloroform, in the ordinary way, which is given in but very trifling quantities, the patient remaining conscious from the beginning to the end. After a certain number of whiffs, a four per cent. solution of cocaine is injected, the usual dose amounting to two syringefuls ( $1\frac{1}{3}$  grains of pure cocaine). In very protracted operations, however, twice as much is gradually injected. The advantages claimed for the "mixed anæsthesia" are these: (1) Only small quantities of chloroform are required for all practical intentions and purposes; (2) vomiting occurs but exceedingly seldom; (3) the pulse remains good all through; (4) the patient's subjective state after the operation proves to be invariably excellent. As to a simple cocaineisation, it is said to be especially indicated in plastic operations and in cases of reduction of luxations. In operations on bones, however, cocaine alone is insufficient. A local injection of the drug affords, further, an excellent "mobilising means" (as the author puts it) in



cases of rigidity of joints frequently following a prolonged use of stiff dressings, and requiring the treatment by "articular gymnastics." The latter not uncommonly proves to be impracticable on account of severe pain, caused by any exercise of the kind. Injections of cocaine, however, can make the procedure quite painless, the patient readily beginning to train his pseudo-ankylosed joint in due manner. As far as the author's experience goes, the cocaine anæsthesia, whether simple or mixed, seems to be free from any serious concomitant or consecutive effects. True, in women there may now and then occur some nervous symptoms, but, as the author is inclined to believe, they should be attributed rather to some emotional causes than to the agency of the drug used.

In the course of a prolonged discussion, following Dr. Zmigrodski's communication, Dr. A. A. Troianoff, house surgeon to the Obükhovskaia Bolnitsa, has said that he found a local cocainisation ( $\frac{4}{5}$  grain of the alkaloid) useful only in cutaneous operations, while in those on deeper seated tissues it failed to secure a sufficient anæsthesia.

Dr. O. A. Schlesinger has stated that he has obtained excellent pain-killing results in cases of labor in primiparæ, during the "crowning" expelling pains. He injects a syringeful of a five per cent. solution of cocaine into the labia, and, besides, paints the uterine os and cervix with the same fluid. The anæsthetic effects last from 15 to 20 minutes.

Professor M. S. Sübbotin, of Kharkov, has said that he resorts only to a local cocainisation in suitable cases, a "mixed narcosis" having failed in his hands.

Dr. A. L. Ebermann has stated that he employs cocaine in operations on the urethra and bladder. Amongst other things, he has pointed to the curious fact that, while inducing a complete anæsthesia of the canal and vesical cavity, cocaine always fails to produce any anæsthetic impression on the neck of the bladder.

Dr. A. P. Zelenkoff has concurred with Dr. Zmigrodski in recognizing the value of cocaine as a "mobilising agent."—*Medical Chronicle*.

TREATMENT OF SEVERE VOMITING OF PREGNANCY.—Dr. Amand Routh read a paper on this subject at a recent meeting of the Harveian

Society. After alluding to the difference between the vomiting of pregnancy and the vomiting in pregnancy, he noted the anxiety occasioned by severe forms of this condition, and the advantage of having an easy and efficacious mode of treatment in itself free from risk. Although it was now generally held to be reflex, and due to some local irritation at or near the os uteri internum, great difference of opinion existed as to the exact pathology and as to how it was produced. The author did not think the vomiting was often secondary to displacement or incarceration, and showed that it occurred where no malposition existed, and that, even when vomiting occurred with misplacement, replacement did not cure it. The treatment by drugs, accessory measures, replacement, Copeman's dilatation, local applications of cocaine, counter irritation, etc., was reviewed, and it was shown by several cases that painting the cervix and the end of its canal with iodine paint (equal parts of iodine, iodide of potassium, spirits of wine, and water) had, in the author's hands, never once failed in the last seven years at once to stop the sickness, which might, however, begin to return from the fifth to the fifteenth day, when it was almost certainly permanently arrested by a second application.—*British Medical Journal*.

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## THE Canadian Practitioner

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### EXECUTIONS BY ELECTRICITY.

Since the execution of the four criminals at Sing Sing, N.Y., there has been considerable discussion in both the medical and lay journals respecting the new method. The advocates of electrocution, as it is sometimes called, appear to be well satisfied with the Sing Sing results.

Dr. Rockwell, who was present, says, in a letter to the *Medical News*: "The executions on Tuesday demonstrated to the satisfaction of myself, as well, I think, as of all others present, that no method for the disposition of criminals condemned to death could better meet the requirements of decency and efficiency, and that it ought to supplant everywhere the barbarous process of hanging. Through electricity death comes instantly, painlessly, and unattended by mutilation, convulsions, or any distressing outward manifestations of pain."

After the wretched bungling in the Kemmler case it is satisfactory to know that the other four wretches were snuffed out with so much "decency and efficiency," and so scientifically, too. The new method, however, has its drawbacks. It requires a very complicated machinery, the utmost care, and the service of scientific electricians. The experts appear to take considerable enjoyment out of their work, and it would, perhaps, be ill-natured to begrudge them the satisfaction growing out of the success attained by their admirable skill. They do their business in *almost no time*, with neatness and expedition.

Many a murderous crank will probably, in the future, contemplate the eminently respectable method of his departure from this vale of tears with considerable satisfaction. He is less likely to cheat the aristocratic electrocutor by suicide than the common hangman. The brute who deliberately murders his victim generally dislikes to be hanged, and will doubtless feel very grateful to the modern reformer, who has shown such consideration for his sensibilities and prejudices.

There are many who think, however, that the old-fashioned method of hanging such a wretch will answer very well. It is certainly less troublesome in all respects. Some object to the hanging because it causes so much suffering. Occasionally it may, when want of skill or dexterity is shown by the hangman; but, as a rule, there is not much pain. Death is generally speedy. In any case, we are told that as soon as the noose is tightened sensation is abolished. Upon the whole, the rope does its work well; and as it is readily procurable and easily handled, we see no reason why it should in this country be thrown aside for the new fad.

## BRITISH MEDICAL ASSOCIATION.

The British Medical Association is undoubtedly the greatest medical society in the world. It has a membership of about sixteen thousand, and its numbers are increasing rapidly from year to year. The fifty-ninth annual meeting was held in the beautiful town of Bournemouth, in the south of England, July 28th to 31st inclusive. The arrangements made for this meeting were elaborate and complete.

The able and energetic secretary of the Association, Mr. Ernest Hart, was in Canada in the month of June, and organized three branches of the society, at Winnipeg, Toronto, and Montreal. Mr. Hart delivered interesting addresses in these cities, and considerable enthusiasm was manifested by the Canadians who were present at the various meetings. The following officers were elected:

Winnipeg: President, Dr. A. H. Ferguson; Vice-Presidents, Drs. Thornton and Lamont; Joint Secretaries, Drs. J. R. Jones and Hutton; Council, Drs. Pennefather, Lacombe, Higginson, Blanchard, and Gillies.

Toronto: President, Dr. A. B. Macallum; Vice-President, Dr. W. B. Geikie; Secretary, Dr. W. B. Thistle; Treasurer, Dr. H. T. Machell; Council, Drs. Powell, Reeve, Wishart, Cameron, and McPhedran.

Montreal: President, Dr. Hingston; Vice-President, Dr. Geo. Ross; Secretary, Dr. J. C. Cameron; Treasurer, Dr. J. Perrigo; Council, Drs. Roddick, F. W. Campbell, and Wilkins.

## THE CASE OF MR. W. H. GLADSTONE.

The death of Mr. W. H. Gladstone was caused by a cerebral tumor, of which the symptoms first appeared about five years ago. These symptoms consisted in localized epileptiform seizures, followed by motor aphasia and paralysis of the right arm and leg. After a recent consultation between Sir Andrew Clark, Dr. Hughlings Jackson, Dr. Ferrier, Mr. Horsley, and Dr. Prickett, an exploratory operation was performed. The patient, as we are told in the *British Medical Journal*, recovered from the effects of the chloroform, but his strength did not enable him to rally from the shock and he slowly sank. It was found that the severe and prolonged pressure had flattened the medulla oblongata and basal structures.

## Meeting of Medical Societies.

### PATHOLOGICAL SOCIETY OF TORONTO.

March 28th, 1891.

The Society met in the Biological Department, the President, Dr. J. E. Graham, in the chair.

The following specimens, with remarks, were presented for Dr. T. K. Holmes, of Chatham :

#### (1) UTERUS AND APPENDAGES FROM A CASE OF RUPTURED TUBAL PREGNANCY.

The uterus is from a married woman who had been delivered of a child about a year before her death, and after weaning the child had menstruated once. She then missed the next period, but had a slight discharge of blood a few days later. About four weeks after the regular period she was seized at night with severe pain in the lower part of the abdomen, and rapidly became very weak. A doctor was sent for and found her almost pulseless and very pale. He prescribed for her and went home three miles, but was sent for almost as soon as he got home, and this time he took Dr. Langford, of Blenheim, with him. She was in *articulo mortis* when they arrived, and died a few minutes after, and before morning. The autopsy made next forenoon revealed a large quantity of blood in the abdominal cavity, and a minute opening in the Fallopian tube, quite close to the uterus. It was thought to be rupture of a small abscess, but the symptoms led one to think it was a ruptured tubal pregnancy and on examining the specimen one discovered what appeared to be placental tissue.

#### (2) HYPERTROPHIED TISSUE REMOVED FROM A LACERATED CERVIX UTERI.

This was removed from the anterior lip of a cervix lacerated bilaterally. The lip was so broad and thick that it would have been impossible to cure the lacerations without first removing this tissue, which was done by denuding the posterior lip in the usual way and then dissecting the hard tissue out entirely across the anterior lip, depending upon the undenuded central strip of tissue on the posterior lip to form the restored cervical canal. The operation turned out most satisfactorily, and the parts now present a normal appearance, and the nervous symptoms are entirely relieved.

#### (3) CARCINOMA UTERI.

This small bit of tissue was from a patient sent me by Dr. Lake, of Ridgetown. The disease involved the vagina, and of course offered no hope of cure by any radical operation. Scraping and the thermic cautery gave temporary relief from hemorrhage, but she sank and died about five months afterwards.

#### (4) TUMOR OF THE TESTICLE.

The tumor was removed from a man 56 years old, about two months ago. It had been growing about eleven months. A hydrocele had existed in connection with it, and had been cured last summer by tapping and injecting pure carbolic acid. The tumor occupied the right side of the scrotum, extending up to the external ring. It was hard and painless, and was removed without difficulty, the wound being healed in less than two weeks. He gained in strength and felt much better, but about a month after the wound had healed a rapidly growing tumor appeared in the abdominal cavity, near the umbilicus, and his health failed very soon. He is still living, but offers no hope of recovery. There is no history of tubercular or of syphilitic disease in his ancestors, but his daughter recently died after hysterectomy for cancer.

#### (5) STRICTURE OF THE ŒSOPHAGUS.

The œsophagus was removed from a woman, æt. 64, who had a good family history and who had a large family of healthy children. She was never seriously ill until about eight months before her death, when there came on gradual and progressive difficulty in swallowing. She was under the care of Dr. Samson, of Blenheim, with whom Dr. Holmes saw her in consultation several times. From almost the beginning of her sickness she could not swallow solids, and even liquids were taken with great difficulty. A medium-sized stomach tube could always be passed easily, and the autopsy showed patency of the diseased part of the œsophagus. The tissue at the point of disease was pretty hard and somewhat thickened. She became greatly emaciated, and died eight months after the first symptoms were noticed.

#### MYXOMA REMOVED FROM THE GREAT PECTORAL MUSCLE.

Dr. Primrose presented a specimen with



microscopic sections, and gave the following account of the case:

The patient from whom this tumor was removed came under my care on Aug. 12th, 1890, when the following condition existed: On the right side of the chest anteriorly there was a swelling, presenting a circular outline, with a diameter of  $2\frac{1}{2}$  to 3 inches. The inner edge was one inch from the centre of the sternum, and the upper edge a little more than one inch below the clavicle. It lay apparently in the line of division of the clavicular and sternal portions of the pectoralis major muscle. When this muscle was thrown into action the tumor became much more prominent, but the circumference diminished. With the muscles relaxed the tumor projected three-quarters of an inch beyond the general surface of the chest wall. On palpation the tumor felt soft but did not fluctuate. It presented elevations and indentations on the surface, and it slipped from under the finger on pressure in a curious fashion. The patient suffered no discomfort, with the exception of a gnawing sensation at the seat of the tumor after working hard.

The patient had first noticed the tumor nine months before coming under my care. He had a fall three years previously, and received an injury in the region of the tumor. He knows of no other apparent cause. The rate of growth had been very gradual. It was about half the size of a hen's egg when first noticed. The condition was thought to be that of fatty tumor, but on exposing the growth at the operation it was found to be composed of a gray gelatinous-looking material. It was intimately connected with the muscle; some of the muscle fibres passed over the surface. The mass was, however, detached readily from the muscle by the aid of the finger-nail; it passed between the muscle fibres, and a considerable mass of growth was found on the under aspect of the muscle; this portion was removed after drawing the muscle aside by retractors. The whole mass, when removed, was found to be composed chiefly of a cluster of small lobules, each lobule being about the size of a grape, and consisting of a clear jelly-like material. On section a ropy fluid could be squeezed out of it. At the operation it was thought that there was some enlargement at the junction of the third rib

with its cartilage. Under the microscope the tumor presents the appearance of myxomatous tissue; branching cells are observed lying in the midst of clear, transparent material; fibrous tissue is observed running here and there, and blood vessels also. Fat globules are seen scattered throughout the section. There is a delicate capsule surrounding the growth. At no point could one discover any evidence of sarcomatous growth; nor, indeed, was anything discovered save the characteristic structure of a pure myxoma. In looking up the literature of the subject I find that the only reference Hamilton\* makes to myxomatous growths which have been described under the name of "myxoma" are in connection with the sarcomata. In these, and in the one figured in his book, there is a portion of the tumor presenting myxomatous structure, and a portion that of a typical round-celled sarcoma. In referring to mucoid or myxomatous degeneration, Hamilton states that "in the foetus at an early period of life, the whole of the subcutaneous areolar tissues consist of a texture highly loaded with this substance, the Wharton's jelly of the umbilical cord and the vitreous humor are both of a mucoid character."†

Cohnheim, while advancing his embryonic theory in discussing the etiology of tumors, instances the occurrence of large subcutaneous myxomata as met with in the thigh of the adult, for instance. He rejects the hypothesis that the subcutaneous and adipose tissues have reverted in such cases, not simply to juvenile, but to intra-uterine habits, and have transformed the albuminous material conveyed them by the blood stream, not, as is usual, into collagen and fat, but into mucin. He supposes rather that the rudiment of the tumor has risen in embryonic life, and it will, under such circumstances, be precisely the physiological function of its cells to produce mucous tissue. In the embryo, he states, myxomatous tissue is extensively developed, and regularly constitutes the first stage in the formation of collagenous and fatty tissues.‡

In whatever way the etiology of the tumor may be explained, I think we must look upon

\*Text-book of Pathology. D. J. Hamilton. Page 369.

†A Text-book of Pathology. D. J. Hamilton. Page 176.

‡Cohnheim's Lectures on General Pathology. New Sydenham Society's Publication. Vol. II., p. 777.

the specimen presented as that of a pure myxoma developed in connection with the areolar tissue which exists between the clavicular and sternal portions of the great pectoral muscle.

Dr. Acheson asked if Dr. Primrose regarded this myxoma as a neoplasm distinct from sarcoma, and not the result of a degeneration of a tumor primarily sarcomatous.

Dr. A. B. Macallum said that mucigen is not relatively more abundant in the embryo than it is in the adult.

Dr. Oldright spoke of the extreme liability to recurrence of the myxomata, and related a case which had recurred three times.

Dr. Primrose, in reply, said that he thought there was no appearance in this tumor of sarcoma, and that if Dr. Macallum is right then Cohnheim's theory of the embryonic origin of tumors is destroyed.

#### ACUTE NECROSIS OF THE FEMUR.

Dr. Peters presented a specimen and gave the following history: The patient, a female nine or ten years of age, died after a week's illness. There was some swelling near the right knee. On incision over the lower end of the femur, *post mortem*, thick creamy pus escaped. The periosteum was raised and separated over nearly the whole of the lower part of the femur, but the disease stopped short at the epiphysis. There was commencing separation of the diaphysis from the epiphysis. In the fresh pus stained were found staphylococcus pyogenes aureus, and other bacteria. Cultures were made from the pus thirty-six hours afterwards, and colonies of staphylococcus pyogenes aureus and bacillus putrescens were obtained. Two mice were injected with some of the pure culture. One died in thirty-six hours with all the symptoms of acute septicæmia. This disease has also been called acute osteo-myelitis, bone typhus, septic osteitis, or acute epiphysitis. Senn says it is very frequent in children, but this has not been his experience. The etiological factor is in all probability staphylococcus pyogenes aureus, or albus, the same that gives rise to furuncle, acute mammary abscess, etc. The virulence of the disease when in bone is to be accounted for by the peculiarity of the tissue near the epiphysis, and its special septicity is due to the nature of the circulation in bone. Death results in various ways; sometimes in a

few hours from septic intoxication; most commonly, however, from metastatic abscesses. The progress of the disease is rapid, and the extent of the bone affected usually much greater than in this case.

Dr. W. P. Caven, who had been associated with Dr. Peters in the case, gave the following clinical history:

Emma R., æt. 9; father and mother alive and healthy; one brother died, æt. 10, from caries of spine; one brother and one sister died from heart disease, both having suffered with rheumatic fever. Patient thin and always delicate. Saw patient first on Feb. 21st. She complained of pain in right knee; it had prevented her going to school the day previous. The joint was red and tender, but not swollen. Pulse, 100; temperature, 102° F.

Feb. 22: Pain still in right knee; not swollen; also in right elbow. Pain also complained of in right thigh, but not swollen, measurements being the same for both thighs. Urine normal. Temperature and pulse same as day previous. No chills.

Feb. 23: Pain in same parts, also in left shoulder; the right thigh a little larger than the left, and very tender, especially just above the knee. No chills, but copious perspirations. Temperature, 103; pulse, 120. No fluctuations detected. Condition remained about same for two days.

Feb. 26th: Consultation with Dr. Graham. No fluctuation present. Right thigh, above knee, 1½ inches more than left. No pitting or œdema. Decided to call in surgeon.

Feb. 27th: Dr. Peters saw patient, and thought it advisable to operate, but before consent obtained patient had developed pericarditis and double pleurisy.

Obit. March 2nd: Day before death a swelling presented in right submaxillary region.

Dr. McPhedran asked if the urine or the condition of the spleen had given any aid in the diagnosis.

Dr. Caven replied that the urine gave no indications, but there was a slight enlargement of the spleen.

Dr. Osler said such cases were not uncommon, and related one which he saw in Montreal, and which was thought at first to be acute rheumatism, but the real nature of which soon

became evident; *post mortem* there was found also ulcerative endocarditis. He spoke of the difficulties of diagnosis. The local symptoms were often slight, while the constitutional ones were grave.

Dr. Graham related a case of this disease in the tarsus, where the patient recovered.

Dr. Peters, in reply, said the interesting point was where did the disease commence, in the medulla or in the periosteum, as this would greatly influence the treatment; for, if in the medulla, there would be no use in opening the periosteum merely, but one should drill through the bone into the medulla. This might have been a case of multiple necrosis, for the autopsy was only a partial one. If multiple, it might explain why these cases are so often mistaken for rheumatism.

#### NATURE AND ORIGIN OF AMYLOID.

Dr. A. B. Macallum read a paper on this subject, a preliminary note of which appeared at page 255 of THE CANADIAN PRACTITIONER.

Dr. Osler asked whether the iron is seen in the same granular form as it ordinarily is in the ammonium sulphide reaction.

Dr. Macallum replied that there was no granular appearance, but that under the microscope it gave a diffuse stain like that of iodine-green.

#### TUMOR OF THE CEREBELLUM.

Dr. W. P. Caven read the following history:

The specimen presented was a tumor of the under surface of the left lateral hemisphere of the cerebellum. The tumor pressed forward on the pons, also toward the middle line, displacing the cerebellar substance not infiltrating it. Where the tumor rested upon the base of the skull, the bone was slightly eroded. The tumor sprang from the dura mater, and microscopic examination proved it to belong to the sarcomatous group.

Clinical history: Miss R., æt. 58. Family and personal history good. Her paternal grandfather died, æt. 92, from some form of fungating tumor, which presented itself in the region of the frontal bone.

First saw patient on July 11th, 1890, when the only complaint was partial loss of sensation throughout the whole distribution of the fifth nerve. No interference with motor branches of fifth, or with sixth or seventh. Taste un-

affected; motion and sensation normal; no alteration in superficial or deep reflexes; no optic neuritis; no headache; no vomiting.

Next saw patient in December, when in addition to above symptoms patient complained of attacks of dizziness, with a tendency to face toward the left side; these attacks most marked on rising from sitting posture, although sometimes felt while in recumbent position; on one occasion patient was seized with an attack and fell out of bed. At this time patient also complained of pain in the occipital region and down the neck; head would become retracted and neck stiff. Double optic neuritis now present; pupils dilated and sluggish. About the middle of January vomiting began; it never was a marked feature of the case, occurring at intervals of two or three days and ceasing altogether a couple of weeks before death.

Feb. 1st, 1891: Slight facial palsy now noticed for first time, and some difficulty in swallowing now manifested, this increasing till death on Feb. 18th. During the last week of life patient had frequent general convulsive twitchings, senses became dulled and she sank into a comatose state. Pulse and temperature remained normal as far as observed.

The interesting point in this case is the presence of a local symptom for a long time previous to the general symptoms of tumor of the brain. No general symptoms were manifested until December, 1890; whereas the local symptom, anæsthesia in distribution of the fifth, was observed first in May, 1889, the patient maintaining that it came on suddenly, never having experienced any neuralgic pain in the region of the fifth.

Dr. Osler asked if it were not more likely to be a fibro-sarcoma than a glioma from its situation.

Drs. Graham, Acheson and McPhedran thought that from its microscopical characters it was undoubtedly a fibro-sarcoma.

#### SARCOMA TIBIÆ.

Dr. Thistle presented a specimen and gave the following history:

Sarcoma of tibia removed from a young man æt. 23 years. Duration of growth, about 10 months. The young man first experienced discomfort about 10 months prior to operation, complaining of aching and tired feeling in limb.



This condition passed into more decided pain after a time, and the head of tibia became enlarged. The enlargement became prominent in the lower part of the popliteal space. A perforation occurred on anterior surface of tibia about region of tibial tubercle. From this opening there was discharge of dark watery, grumous fluid. After several months general health began to fail noticeably, and operation was decided upon. At this time there was no evidence of affection of the organs. The leg was removed by amputation through the lower ninth of femur. Recovery was rapid and complete, patient being out three weeks from date of operation. General health improved rapidly and up to date there has been no evidence of recurrence. The growth proved to be as diagnosed, a sarcoma which began on head of tibia, which was completely hollowed, and leaving simply a shell. The growth had extended posteriorly, involving soft parts behind the knee.

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### Personal.

DR. JOHN H. RAUCH has resigned his position as Secretary of the State Board of Health of Illinois.

DR. J. H. C. WILLOUGHBY, of Regina, spent a few days in Toronto early in July.

DR. HARRY OLDRIGHT, of Toronto, has gone to England.

DR. G. S. RENNIE, of Hamilton, has been gazetted Assistant Surgeon to the 13th Battalion.

DR. FRED. H. S. AMES has removed from Bridgen to Sarnia.

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### Obituary.

DR. GEO. ARCHER TYE was essentially a self-educated and a self-made man in all respects, and at the same time one of the best practical and scientific physicians this country has known. He was peculiarly handicapped as a boy, but overcame serious obstacles, and obtained a good preliminary education chiefly by studying alone at the intervals he could snatch from his daily work. After some weary years he was able to commence his regular medical studies, which he completed in 1866, when he received the degree of M.D., from Long Island College Hospital. He received M.D. from Victoria in 1867.

After graduating, he settled down to the drudgery of country practice, in which he was unusually successful. Although one of the busiest practitioners to be found he continued to be a thorough and earnest student up to the

time of his last illness, and enjoyed the proud distinction of being one of the best physiologists and pathologists in Canada. He was one of those wonderful enthusiasts who spent many an hour between midnight and morn working with his microscope, or reading the latest and best medical literature in all departments. His capabilities were recognized by the University of Toronto and the Ontario Medical Council, as shown by his appointment by both bodies to the position of examiner in physiology, or pathology, or both, for several years.

He was no mere book-worm, however, but a most able practising physician, possessing good judgment as well as great attainments. Apart from his knowledge of things medical, he was a grand man in all respects; modest in the extreme, always honorable in his dealings with his fellow men, kind and sympathetic to his patients, generous and considerate towards all brother practitioners. He was respected by all, and loved by those who knew him well. He always took a deep interest in the work of medical societies, and was one of the strongest supporters of the Ontario Medical Association, of which he was one of the most highly honored presidents. He practised for many years in Thamesville, but a few years ago removed to Chatham. The change brought him little or no rest, because he almost immediately entered into a very large practice, and soon formed a partnership with Dr. J. H. Duncan with very gratifying results. He was in poor health for a year, and his death, which occurred July 23, at the age of 56, was caused by phthisis following pneumonia.

DR. FRANK H. POTTER, of Buffalo, only son of Dr. W. W. Potter, of the same city, died at his home, July 16th, after an illness of about twelve days, from peri-cæcal abscess. A section was made by Dr. Mordecai Price, of Philadelphia, and about six to eight ounces of pus evacuated. The prospects were good for a time, but he commenced to sink on the fourth day after operation, and death occurred on the following day. He was a young man, æt. 31, of unusual promise and most lovable disposition, and his untimely death was a sad blow to his relatives and many friends.

DR. S. BEDSON, warden of the penitentiary in Manitoba, was one of the best known physicians in the Northwestern Territories. He took much interest in military matters, and was on active service in the Northwest rebellion with the rank of colonel. His kindly and genial manners made him exceedingly popular. He had been in poor health for some time, but his sudden death from apoplexy was a great shock to his many friends. He was buried at Stoney Mountain, Manitoba, July 22nd.

## Miscellaneous.

**DR. CANNIFF'S SERVICES.**—We have much pleasure in publishing the following letter, which will be heartily endorsed by the general profession of Toronto:

*To the Editor of The Globe:*

SIR,—I trust you will give me space in the columns of *The Globe* to make some remarks respecting one who has faithfully served the city for seven or eight years. I have been hoping and expecting that some one more competent to do so than myself would render honor to one to whom honor is due. Perhaps it is an example of "out of sight, out of mind." The splendid work accomplished by Dr. Canniff in public health matters has never been duly recognised. When he commenced his career in sanitary reform there was great ignorance and indifference among the citizens and their representatives in the Council, and even no longer ago than the time of Mayor Manning the medical officer was told by the mayor that such an officer was unnecessary. I have been cognizant of the proceedings in connection with that office and duly read the carefully-prepared and lucid reports issued from time to time from the health office and know whereof I speak. At the present time there is a general interest felt in sanitary matters, but it was Dr. Canniff who first aroused that interest and created the desire among citizens to have healthy homes. Looking back I call to mind that it was his action which caused the filthy University Creek to be superseded by a sewer, as well as the equally polluted Garrison and Rosedale Creeks. Who was it but he who first, and time and again, called attention to the fact that the wells of Toronto were foul and unfit for domestic use and who was the means of having hundreds closed? I remember when some seven years ago he sounded the alarm that Toronto Bay was no better than an immense cesspool. For years he urged the abolition of privy pits, tried to have abattoirs constructed and slaughter houses abolished, and at almost every meeting of the local Board of Health urged the construction of crematories and endeavored to protect the citizens from impure milk and ice. In his report to the Board in the spring of 1890, he stated that he knew the character of the ice in the various ice houses, and asked that he might be authorised to compel the dealers to use separate wagons for pure and impure ice and to have painted upon each different labels, as that in no other way could the safety of the public from impure ice be secured, but the Board declined, and there is strong probability that the increase of typhoid last season was due to polluted ice.

The idea to have the smallpox hospital on the island east of the gap was proposed by Dr. Canniff three years ago. His management of smallpox cases and prevention of the spread of that loathsome disease was his greatest success. When there was an epidemic in Buffalo three years ago, and the disease was brought to Toronto in seven different places, all of them in crowded streets and crowded houses, the disease did not extend from one of them, a result the late president of the American Public Health Association declared to be marvellous. Year after year the sanitary condition of the island received his careful attention. Some of his recommendations with regard to the filling up of the lagoons or connecting them with the bay, so as to prevent stagnation and have a current through them, were followed. Others were neglected by the Board and Council. When dead fish collected on the shore they were gathered up and disposed of. He made arrangements to have the garbage removed to where it would not endanger the public. Through his instrumentality the slips were dredged out, and when possible at hours when the public were not passing.

Any one who will look at his yearly reports will see how the Medical Health Department grew and developed

under his guiding hand. It may not generally be known that he was in his office at 8 or 8.30 a.m. in summer and 9 in winter. Every report of every inspector was examined by him and instructions given. In spite of manifold obstacles, he succeeded in having houses unfit for human occupation vacated. Notwithstanding an indifferent, lukewarm, or a hostile Board and enemies in authority, he made Toronto a healthy city, as the mortuary returns show. This will be seen by his last annual report. Toronto was then far ahead of all the cities in the Dominion. Enemies of the department were continually declaring or insinuating that his system was bad or that there was no system, and not a month before he resigned, out of despair and worn out by worry and discouragement, he asked that veteran sanitarian, Dr. Oldright, to examine his mode of procedure, and this is what Dr. Oldright said: "In pursuance of your request that I should examine into the system adopted in your office and express my opinion upon it, I have to say that I have looked at the various forms and traced the successive steps for the abatement of nuisances and correction of insanitary conditions, for the limitation of infectious diseases, for the regulation of dairies, slaughter-houses, junk shops, etc., for recording and filing reports of work done, and for the execution of such other sanitary work as appertains to the office of a local medical health officer. I have had opportunities of seeing the methods employed in Chicago, New York, and Boston, and I am glad to be able to say that those adopted by you are similar, and equally well-adapted to attain the ends in view."

ONE WHO KNOWS.

Toronto, June 24.

Arrangements are being made for a post-graduate course in Edinburgh, to commence September 21st and end October 10th.

At the recent final examination for M.B. and C.M. in the University of Edinburgh, the number of successful candidates was 192.

## COLLEGE OF Physicians and Surgeons OF CHICAGO

Three years' course. Fees, \$88, \$75, \$65. No extras. Practical work in well-supplied laboratories. Thorough clinical teaching of limited classes by specialists in the College Dispensary (23,000 patients last year) and County Hospital (600 daily average last year).

SEND FOR ANNOUNCEMENT.

BAYARD HOLMES, M.D.,

*Corresponding Secretary.*

240 Wabash Ave., Chicago.

# THE CANADIAN PRACTITIONER

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## Original Communications.

### MYOMA OF THE UTERUS.\*

BY DR. F. R. ECCLES, LONDON, ONT.

The subject of myoma of the uterus has been engaging the mind of both the general practitioner and the specialist for the last decade as it never has in all the great years of the past. The restless spirit of man, in all departments of science, is pushing forward rapidly, and opening up paths never before trodden, and the department of medicine forms no exception. Some of these paths, during the last decade of the nineteenth century, will be well beaten, and some, no doubt, closed. At one time, and within the recollection of some here, the treatment of ovarian tumors by removal through an abdominal opening caused so much adverse criticism, and was attended by such untoward results, that what is now a well-beaten path might have been closed for half a century to come. Just at that time details of cases were noted and statistics kept in a more methodical manner than had ever been before; the result of which was a more rapid ripening of experience, largely beneficial to those just engaging in abdominal work. And so we find the differential diagnosis and treatment of myoma have been largely engaging the mind of the profession, since with the ripened experience of many operators the results of ovariectomy have been so encouraging, so successful.

Time will not allow me to enter largely into the diagnosis, and I have considerably curtailed what I had intended to say on this point in order to especially provoke discussion on the treatment. A time occasionally arises in those cases when symptoms which are common to many diseases must receive their due import, and the general practitioner, as well as the specialist, may here, right in connection with this subject, find it no small matter to determine to which of its many sources a particular sign or symptom is due. Hemorrhage is the most frequent symptom of myoma, but it is a symptom common to many other diseases, and a knowledge of *such* is absolutely necessary in order to determine the most likely cause of hemorrhage from the uterus in any given case. I do not think there is any branch of medicine to which these remarks are more applicable, any branch in which greater care is necessary in estimating the proper value of symptoms and history, than in the physiological and pathological processes which produce enlargement of the abdomen. It is to the general practitioner we look for the history and treatment of the great majority of cases of myoma of the uterus. They are first brought to the notice of the family physician by reason, perhaps, of a swelling having been discovered, or symptoms connected with the unfelt swelling—symptoms of pain or distress, or hemorrhage, either in connection with menstruation, or at other times; or he may discover the tumor accidentally, no symptoms being present. Great exercise of judg-

\*A paper read before the Ontario Medical Association, June 4th, 1891.



ment is required not to create anxiety or needless alarm upon the first discovery of the swelling. The very knowledge of a tumor of any kind, to many women, is a source of the greatest worry; and as the great majority of cases may with care pass on to the climacteric without any very dangerous symptoms presenting themselves, these cases may remain under the care of the family physician with oftentimes greater benefit than if sent away to some specialist. To send a patient some distance away from home and friends for treatment frequently creates a condition of mental disquietude, which interferes with sleep, deranges the digestive organs, and impedes assimilation, so that I maintain that the judicious physician will, in the absence of any serious symptoms, manage these cases well, and conduct them to that period when one may expect a quiescence of symptoms, a cessation of growth, if not a retrograde movement. These remarks have reference entirely to the multinodular tumors, which are rarely single, and are intimately associated with menstruation, grow during that period, and decrease or disappear after the menopause, whether the menopause be natural or brought about by removal of the appendages.

The much rarer forms, the soft, are single and interstitial, grow at all ages, do not cease growing at the menopause, are not connected with or influenced by menstruation, and as a rule grow much more rapidly than the hard or multinodular. It is more than probable that all myomas of the multinodular kind are first intramural, and that they grow in the direction of least resistance, thereby following a natural law. If the resistance is equal, they remain intramural; if unequal, they become either subperitoneal or submucous.

Those who have had the opportunity of examining numbers of cases of myoma, both before and after operation, will have no difficulty in reconciling the variety of symptoms that present themselves in connection with this disease. Symptoms differ largely, whether the tumor be single or multiple, whether it grows from the posterior wall or anterior wall of the uterus.

In the nodular, the number of tumors, their arrangement and growth, produce an endless variety of configuration; and mixed up with this, a variety of displacement of tubes, ovaries,

and broad ligaments, and of the bladder itself. Recognizing this, one is prepared for a great variety of symptoms. Pressure upon the bladder, rectum, sacral nerves, the ureters, will produce symptoms referable to the organs thus encroached upon. Pressure on the ureters is more likely to occur in cancer than in myoma from infiltration around the ureters; in either case, it will lead to hydronephrosis. In the early stage, impaction in the pelvis, with or without retroversion of the uterus, may be produced. This must be recognized and freed, and is generally best accomplished just after the period, owing to the influence of menstruation. The tumor is largest just before, and smallest just after the period.

One case occurred to me in which there was a singular periodicity of pain, to me wholly unaccountable. The tumor was wedged in the pelvis, with no continuous but a characteristic intermittent pain three days on, and three days off. The pain was intense during three days, requiring full doses of morphia to relieve it, and the following three days she was quite free from pain; and the singularity was that the condition was not in any way influenced by menstruation.

Another case with exceptional symptoms was a patient from whom I removed, in December last, a myoma as large as an orange, growing from the posterior wall of the uterus. For several years she had been the subject of great nervousness, had frequent attacks of hysteria, and had been largely troubled with insomnia. At times she showed mental weakness, bordering on insanity. She had taken a variety of hypnotics before I saw her; chloral, bromides, opiates, sulphonal, antipyrin, antifebrin. The use of the latter remedy I discovered on Nov. 4th, 1890, owing to its toxic effect upon her. Her sister brought her to me ostensibly to consult me about the blue discoloration of her face (cyanosed condition) which had lately developed itself. Upon questioning her I found she had been taking a solution of antifebrin, *ad libitum*, to produce sleep. Formerly it had produced sleep, but latterly it had no hypnotic effect. Fearing some untoward accident on account of her mental condition, I now strongly urged what I had formerly frequently advised—an abdominal section. Four days later I made

the section and removed the myoma, removing at the same time the left ovary, very much atrophied, and the left Fallopian tube, largely dilated. No ovary could be found on the right side. This was a case of erroneous diagnosis. It was from the first thought to be a solid ovarian tumor dropping down behind the uterus. The sound was of no use here in diagnosis, for with it in the uterus the tumor did not appear to move with the uterus. Her extreme nervousness, coupled with the excessive tenderness of the tumor, a rare symptom in myoma, helped to lead me astray and confirm a diagnosis which was afterwards found to be incorrect. The change for the better in this case was immediate and continuous. Four, six, and eight hours of natural sleep, with improved appetite, digestion, and assimilation, followed almost immediately. Her moral and physical strength returned in a manner almost incredible. Symptoms here were entirely outside the normal, and not at all dependent upon the size of the tumor. Indeed, a very careful study of these cases in the early stage will determine a variety of symptoms which are not in common. Now and then cramping pains in the uterus, caused by a small myoma, are often put down to neuralgia, or hysteria, and cannot be diagnosticated with certainty in the very early stage of the disease. But the most frequent and most important symptom, and the one which we will most frequently be consulted for the first time, is hemorrhage. This is because the disease occurs during the period of greatest activity of the sexual organs, between 25 and 45. It is more indicative of the submucous, or of the intramural. All varieties very frequently occur in the same case: but as a rule it is the submucous that is the most important to us clinically, the uterus contracting much in the same manner as it does in abortion, endeavoring thus to get rid of the foreign body. These painful contractions often end in separation of the myoma. First gradually assuming the pediculated form, then the pedicle breaking, the entire tumor is separated, and involution of the uterus takes place as after abortion. The increased vascularity of the uterus, as well as the largely increased surface from which the blood flows at the time of menstruation, accounts for the menorrhagia.

Frequent protracted and profuse menstruation should always engage our attention. The flow is a gradual increase, not a sudden flowing, as one sometimes finds in cancer. The interstitial that becomes subperitoneal rarely has symptoms aside from pressure or mechanical inconvenience. The difference of the location makes the history of the one variety differ from another; and if the tumors were single instead of generally multiple, the history alone would often lead us to a correct diagnosis of the variety. If in connection with the hemorrhage, and perhaps pain, we have enlargement of the uterus and deformity of its canal, we feel more certain of our diagnosis.

If the uterus has a firmer feel, we are still more certain; and if with the sound in the uterus we can make out one wall thicker than the other, that there is unevenness or change of form in the uterus, and that there is mobility, our diagnosis is almost certain. But when with the mobility the enlargement is smooth and even, the greatest difficulty may arise. Here we have a sort of equilateral triangle with sides; myoma, subinvolution, pregnancy, and hemorrhage and pain may be common to either side.

We cannot take up the sound until we have eliminated pregnancy; and in the unmarried the history must be taken *cum grano salis*. So here we are hampered in our investigations. Where much doubt exists, better wait.

I have had one painful experience, which taught me that even with the married abdominal enlargement ought to be considered apart from the history. A married lady, accompanied with her maid, consulted me for myoma; she mentioned a very excellent physician, whom I knew very well, and under whose care she had been for some time, and who advised her to see me. She had, spreading over a long period, the menorrhagia, the dysmenorrhœa, and various pressure symptoms, corresponding to a myoma filling the pelvis, and in addition so much tenderness that I could not properly examine her without an anæsthetic, which was administered to her at her hotel by a physician whom I asked to see her with me. Looking at her history of many months, coupled with the diagnosis of "fibroid" which she brought to me from a very careful and intelligent physician, threw me off guard. I examined rather

with a view to ascertaining in which wall the myoma was located. The bimanual examination did not help me in this respect, and I proceeded to pass the sound. At first there was some difficulty in passing it, and I began to think of a tortuous canal when suddenly the sound popped in to the depth of  $4\frac{1}{2}$  inches.

The true condition of the case flashed across my mind at once; I said to the doctor, "That will do," stopped the chloroform, and put her to bed.

Fifty-six hours afterwards she had a miscarriage, which both she and her maid concealed from me, she positively refusing to be examined. On the fourth day dysentery with alarming symptoms set in, and, insisting upon examining her, she confessed she had the miscarriage, and that the maid threw everything down the water closet. She was extremely ill for a week; indeed it was a neck-and-neck race for life, and I spent three or four days between hope and despair. Truly she had the wisdom of the serpent, scarcely blended with the harmlessness of the dove.

The sound has therefore to be used with great hesitation. When there is doubt as between subinvolution, or retroversion of the uterus with subinvolution, the sound may settle the question. As to relying upon it to determine between a small solid tumor of the ovary and a subperitoneal myoma of the posterior wall, mistakes may be made. In the larger tumors occasional difficulty will be experienced in differentiating between soft myoma and pregnancy. This will be admitted, when men of the greatest experience, with the abdomen open, have made mistakes along this line. In two cases the operator, with one hand in the abdominal cavity and the other in the vagina, was so unable to determine that the condition was not one of pregnancy that he closed the abdomen. Time revealed the true nature of the cases, the abdomen was again opened, and in each case a hysterectomy was performed. Great caution in arriving at a diagnosis is necessary, and the careful physician will approach it by both the positive and negative methods.

The treatment will resolve itself into various methods, according to the age of the patient,

the urgency of the symptoms, her condition in life, and the character of the tumor, as well as on the peculiar bent of the mind of the physician under whose care the patient comes. I feel certain that in the records of treatment the latter remark will bear emphasizing. Indeed, upon the great question of the treatment of myoma, the medical mind is still unsettled. Dr. Keith, by a brilliancy of results, had far outstripped his compeers, and had almost established hysterectomy on a firm basis as the treatment for myoma in bad cases, when a treatment with much less strain on the nervous system, and requiring much less courage on the part of the operator, was embraced and championed by the great Scotch surgeon. The voluntary and conscientious departure of Dr. Keith produced some commotion in the medical world, and soon provoked discussion in which, I am sorry to say, personal feeling and professional animosity were too apparent.

As I said, hemorrhage is a prominent symptom, and the one for which we will be the most frequently consulted, and the question now and here arises, Is there any medical agent of any avail in checking hemorrhage and retarding the growth of the myoma? I know of but one; that is, ergot, which produces more constant results when used hypodermically than by any other mode of administration. The preparation is important; it should be fresh, and injected deeply into the tissues. Great care is necessary in keeping the needle and syringe aseptic, and the syringe should not be used for any other purpose. The only drawback is the occasional formation of an abscess, despite the greatest care. But I am satisfied, if the preparation is right and perfect cleanliness maintained, that abscess will be very infrequent. I have continued this treatment for months, and I have seen the hemorrhage controlled and tumors largely diminished under the influence of the drug administered in this manner. It acts by diminishing blood supply as well as producing contraction of the tumor itself, and this retards growth.

Perhaps it is more uniform in this respect than in its more frequent use in accouchement cases. Curetting the uterus when the endometrium is diseased, rest during the whole period of menstruation, frequent hot douches,



and the continued use of ergot for months and months, will accomplish more than any other line of medical treatment that I know of. It is important to remember that in not a few cases of myoma we find the endometrium more or less covered with fungoid vegetations. Here dilating the cervix and thoroughly curetting the uterus is productive of the greatest benefit, and often checks hemorrhage for months, if not entirely. The skeptical can raise objections to cases of supposed cure according to this treatment, or any line of medical treatment, and I admit there is abundant room for fallacy. Some cases disappear spontaneously, some cases cease to grow sooner than we expect, and atrophy after the menopause. Admitting all this, and yet a number of cases appear to be benefited by the above treatment.

Sometimes under the influence of this treatment, or otherwise, the tumor becomes submucous, and the uterus, treating it as a foreign body, puts forth efforts to force it out of its cavity. The continued contractions may in process of time render it sessile or pediculated.

Dilatation of the cervix and appearance of the myoma at the external os or in the vagina take place by degrees, when the lowest portion, owing to constriction, or other causes, sloughs, a foul-smelling discharge is noticed, and a not careful examination causes it to be frequently mistaken for cancer.

In more than one case has this come to my notice lately; frequent hemorrhages and fetid discharges are occurrences in the history of cancer, but with care a mistake of this kind will not occur. The myoma is removed with the *ecraseur*. If too large to be removed through the vagina readily, it can be pared away, and the wire loop then slipped over it and the remainder removed. But in a greater number of cases the tumors grow, the menorrhagia increases, the discomfort is more and more felt, and the general condition is daily becoming worse. What then is to be done? Formerly I divided or dilated the cervix, and in some cases got prompt relief from pain, as well as from hemorrhage. The rationale I am unable to explain, but the result is beyond all possibility of question. This little operation is not without danger, and should always be done,

as all operations about the genital canal should, under strict antiseptic precautions.

For some time past the cases that I formerly would have treated by division of the cervix and administration of ergot, I now treat with electricity. In a very few exceptional cases, I have given ergot while using the current. This was on account of the difficulty of controlling the menorrhagia—cases in which I could not always depend upon the positive current checking the hemorrhage, from not being able to use a sufficiently large dose, or other unknown causes. Indeed in a very few cases at times the hemorrhage was increased after the use of the current. Nearly all cases for the last two or three years, where hemorrhage has been a prominent symptom, have been treated in this manner. Electricity, properly dosed and properly administered, is a potent remedy in gynecological practice. To say that I have been satisfied with it in the treatment of myoma would be aside from the truth. I am rather compelled to say that I have been disappointed with it, but that has partly arisen from too great expectations; I imbibed too much enthusiasm in the enthusiastic praise of the remedy; I soon found that under the current the myomas did not disappear like dew before the sun.

Just now attempts are being made to push the pendulum to the other extreme; bitter and most severe attacks have been made upon the treatment and those who use it, and an unwarranted condemnation of it, with a too hasty trial, I fear, has been made in some quarters. In calcareous and cystic degeneration it will be found of no benefit whatever; indeed, I believe the cystic part grows more rapidly under the influence of the current. The same, I believe, occurs where a myoma and an ovarian cyst occur in the same patient.

I have witnessed a much more rapid growth of a cystoma when the large myoma masking the cyst was being treated by electricity. I have learned in this line of treatment, which some are pleased to call the latest fad in gynecology, as well as in many other lines, how difficult it is to keep one's mind free from bias, and I think I have observed the same in a few others; but I have endeavored, during my short experience, to test as best I could its efficacy in the treatment of myoma. I have always,

when I could, introduced the intra-uterine electrode through a bivalve speculum, first washing the neck of the uterus with absorbent wool dipped in antiseptic solution. In some cases, from the position of the os uteri, this was impossible; then the vagina was simply washed out with the solution, and the electrode introduced. For negative currents any metal will do, and I have frequently insulated the sound with rubber tubing, and used it; but for the positive current I have only used platinum electrodes. I have always commenced with weak currents, 20 to 25, and increased according to the tolerance and urgency of the case, and 275 milliamperes is the strongest current I have at any time used.

On account of the cleanliness and ease of application, I have generally used Dr. Martin's abdominal electrode, and the applications have been two or three times a week. As a rule, no perceptible diminution takes place for some two or three months; and were it not that the hemorrhage is controlled in the bleeding cases, the patient and physician would feel much discouraged.

One case impressed me very much with the utility of the current. It was a case in which the tumor was tightly wedged in the pelvis, with cervix forward and behind the pubes. I tried in every possible manner to extricate it; with two fingers in the rectum and volsella grasping the cervix, and patient in knee-elbow position, I was unable to get the tumor above the promontory of the sacrum. The bladder and rectal symptoms were distressing, and the catheter had been used for some time before I saw her. By pulling on the cervix with the volsella, I was enabled to worm a pliable electrode into the uterus; and after some 20 or 25 seances, the uterus passed up out of the pelvis with the greatest ease. I am satisfied that there was diminution in bulk quite one-third. In one case I have had an almost total absorption of the tumor. To sum up my limited experience in the treatment of myoma by the current: We have in electricity a remedy powerful to control hemorrhage and relieve pain, a remedy that in nearly all cases affects the general health for the better; the patients feel better, the digestion and assimilation are improved, and there is in general greater buoy-

ancy of spirits; a remedy that in a minority of cases produces an evident diminution of the tumor, and in a still smaller minority produces an entire disappearance of the myoma.

The drawbacks to its general use are, the expense of the apparatus; great consumption of time at each treatment; the necessity in many cases of a continuation of treatment for months, during which the patients often become discouraged on account of the slowness of the treatment; and when one has not a private hospital, the necessity of patients having rooms near his office.

Removal of the uterine appendages in suitable cases has been gaining ground during the past few years. One cannot close his eyes to the success of the operation *per se*. Whether the induced climacteric will permanently arrest or diminish the growth, sufficient time has not yet elapsed in a sufficiently large number of cases to speak absolutely on this point.

My own opinion is that imitation of nature may be nearly as effectual in arresting myomatous growth as the natural menopause itself. A few patients have become insane after the operation; that may be an accident or coincidence, and will not largely enter into the merits or demerits of the operation.

The mortality has now been brought so low, and the operation in early cases before the myoma becomes large so easy, that even without large experience in abdominal surgery one would be justified in doing the operation in cases of bleeding myomas where neither the medical nor electric treatment has been of avail, and in those cases would I especially emphasize the necessity for operation where years will elapse before the climacteric will be reached.

Then in cases of non-bleeding fibroids, or where the bleeding has been arrested by treatment and yet the myoma is enlarging, the operation is justifiable, with the hope that the induced menopause may at once arrest the growth. For the very small remnant of cases—cases where neither medicine, electricity, nor oophorectomy is of any avail, or where from displacement of the ovaries, or enlargement of the tumor, the ovaries cannot be removed, nothing remains but the major operation of hysterectomy. Would that it always remained

for cases baffled by other treatment—uninfluenced by every other resource of our art. Ovariectomy fought its way through many long years, encouraged and discouraged, halting now and then amidst showers of reproach; but it stands out to-day one of the most successful, as well as one of the most justifiable, operations in the surgical realm. It is not to be wondered at, therefore, that the success attending ovariectomy encouraged operators to deal with the myomatous uterus in a similar manner. But the cases are different; and were the mortality in hysterectomy as low as in ovariectomy, it would even then not be as justifiable an operation as the latter. In this case we have a disease whose evident tendency is to destroy life, and that in a very few years; whereas in the other we have a disease whose evident tendency is not to destroy life, and not to grow after the climacteric.

We would not forget, however, that in a small percentage of cases it does destroy life, directly or indirectly, and in a somewhat larger percentage it does entail long years of discomfort and suffering, and more or less invalidism, until the climacteric, often protracted, comes. On the one hand, we have a disease attended by a frightful mortality; on the other hand, a disease attended with a very small mortality. On the one hand, an operation attended by a very small mortality; on the other hand, an operation attended with a large mortality; for abdominal hysterectomy is a much more dangerous operation than ovariectomy, and requires greater skill, presence of mind, and balance of judgment. Indeed, most serious consideration and a high sense of responsibility becomes one who proposes a hysterectomy. In a large number of cases the operator has to map out his path after the abdomen is opened, for he cannot determine beforehand what line of procedure he will take, and just on this account does experience reap its reward; and in addition to this, it is sometimes very difficult to determine when to operate. An operator has no right, in discussing the possibilities of an operation, to quote the lowest statistics that have been reached by the best operator unless he be that operator himself. To tell a patient who places the responsibility of her life in your hands that the chances are 6 out of 7, or 7 out of 8, because

such results have been achieved by the very best and largest experienced operators, is hardly honest to the patient. It is in extreme cases, where the tumors are very large and the patient has a number of years to run before she reaches the menopause, and where there is no other course open, that we should recommend abdominal hysterectomy, and these cases are extremely rare; and with the various other methods, less dangerous, which are now being applied in the earlier history of these tumors, let us hope that the cases will be still more rare. I think one is safe in venturing the statement that, in the very near future, very large myomatous tumors will be as rare as very large ovarian tumors. Accidents may call for the operation where the operation is not intended; this happened to me where a large sinus in a myoma was thought to be a cyst and was opened; the alarming hemorrhage could not safely be controlled, and the tumor and part of the uterus was removed. This was some years ago: and after double transfixion and tying, I dropped the stump back into the peritoneal cavity. There was some suppuration of the stump, but the drainage tube saved her by keeping the septic influence local. Ten months afterwards with some little force I removed the ligatures from the external os. They had been the cause of more or less discharge, which ceased on their removal. My experience and knowledge therefore lead me to discountenance hysterectomy in the treatment of myomata; that there are safer pathways which, if traversed early, will lead to good results and an exceedingly low mortality—which cannot, of course, promise as complete a cure as hysterectomy, but which promise something very much better—a saving of life.

#### ABSTRACT OF THE ADDRESS IN SURGERY,

*Delivered at the Meeting of the British Medical Association, 1891,*

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F.R.S.,

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MR. PRESIDENT AND GENTLEMEN,—“There are duties difficult of fulfilment pertaining to every position in life, and there are duties attached to public professional life from which no man can assume to himself the right to shrink, with what-



ever diffidence and incapacity they may be undertaken." These are the opening words in one of my favorite books, and they express my feelings so well to-day that I do not hesitate to adopt them. Some years ago a friend of mine was sitting in the Surgical Section at a British Medical Association meeting. He overheard a conversation near him. "Who is that sitting at the table?" said one, pointing to an office-bearer. The answer was, "I do not know him, but he must be a wise man—he has never opened his mouth since I entered the room." The person under discussion was then Secretary of the Surgical Section; he now occupies a more important position, and his first thought this afternoon in addressing you is that he is throwing away his best chance of being considered a wise man. The silent people in this world, as a rule, have the best of it, but silence is not permissible to me to-day.

My hero for to-day, whom I never saw, but whose one great work has been to me a classic, taught me to value a great principle, and I cannot but think that those present who knew him personally, who worked with him and were taught by him, will be the first to acknowledge that in taking him, and the great idea which he loved to inculcate, as my mainstay to-day, I am leaning on a strong staff, and that it will be entirely my own fault if I do not make the subject an interesting one. To those present who knew him not—there are not many present who do not know his work—it is an absolute pleasure to me to be the imperfect medium of an introduction. My hero is John Hilton, and my principle is *rest as a therapeutic agent in the cure of surgical ailments*.

Bacon says there are books to skim over, books to read parts of, books to absorb; Hilton's book on *Rest and Pain* is one to absorb. Since Hilton's time—born in Essex in 1804, died in 1878—many changes have taken place in the practice of surgery. I ask, and wish to try and answer the question, What bearing has Hilton's main idea—good for all time—on our present work as surgeons? While I gladly grant that in this audience there are those who could, from more extensive knowledge, bring Hilton more vividly before you, yet I will yield to no one in my intense admiration for the man and for the principle.

I am not going to attempt to define rest, or its opposite—unrest. There is always some molecular movement going on during life, a part can never be in a state of absolute rest. The term must always be a relative one. It has been divided into mechanical and physiological, but this division is a purely arbitrary one. It has, however, a mental and a bodily aspect—a psychical and a physical side; and without further preface, I will take up first the mental, and afterwards the bodily, aspects of rest and unrest.

We all know, it is not work, but worry—mental unrest—which kills, so a person will bear much physical discomfort in order that he may be relieved of the mental discomfort of his condition. I take into consideration in my practice and in my operations the effect that my decision in recommending any special treatment will have on the mind of my patient. In operations for cancer we all know how frequently they are unsatisfactory, but I think we hardly estimate the great mental depression which often follows on our refusal to

attempt to give relief, more especially after the recurrence of the disease—after the primary operation has taken place. An attempt, even if unsuccessful, to remove a tumor will often give the patient a feeling of mental rest in the thought that no stone has been left unturned in the endeavor to give relief. I desire, as far as I can, to give my patient mental rest, and for this reason I am often impelled to make the endeavor by operative means to give that relief which, looked on simply from the physical side, it may be impossible to underestimate; but, looked at from the psychical side, it may be impossible to overestimate. For example, there is a class of cases which I have sometimes termed the "phobias"—syphilophobia, cancerophobia—in which the whole disease is psychic, and I know no condition in which I have more pleasure in giving relief, because the condition of these patients is a most unhappy one. There is one aspect of the mental side of disease which has, in my opinion, not received the attention which it deserves. When a patient is confined to his bed, away from his work, he is often suffering as much from the worry of mental inactivity as from the physical disease for which he is under treatment. I feel sure that the prescription "don't worry" might with advantage be burnt, and that "do some work" should take its place. I have seen some patients suffering from aneurysm who have shown decided improvement by encouraging them to do some light mental work.

This is an age of diagnostic incisions on the part of surgeons, and faith on the part of patients that after the incision has been made, and the part thoroughly examined, the surgeon will have more light, and be best able to judge as to what should be done.

In diagnostic incisions I believe we have a valuable aid in avoiding psychical unrest. These diagnostic incisions are the direct outcome of the minimised danger of such incisions. A new diagnostic power has been placed in our hands. The first step in the operation is the diagnosis, and the surgeon has no hesitation in taking this step. He requires from his patient a free hand; he takes less on faith and more on sight. He avoids the necessity and uncertainty of guessing, which, perhaps, gave to the surgery of the past much of that something which made great diagnostic surgeons; but we must remember that this diagnostic power was the direct outcome of an experience largely founded on mistaken diagnosis. The present method trains the ready surgeon, and is in my opinion the method which best attains the object desired, namely, that the best is done for the patient.

I need not dwell on anæsthesia as a cause of rest in our patients, except to say that I still adhere to the views I expressed in a paper on chloroform, read at the Cardiff meeting in 1885. I still hold that chloroform is the best anæsthetic; and I cannot help, as a pupil of Syme, feeling pride that the decision of the Hyderabad Commission, presided over by Dr. Lander Brunton, so fully bears out the views held by that far-seeing man. Cocaine, as a local anæsthetic is, in my opinion, of great value in adults. I have never seen any of the evil results, local or general, which have been described. We must take care to use a pure solution, and see that we do not inject it directly into a vein. These are the precautions which I have taken; and I use it

either as a solution of salicylate of cocaine, or kept in pellets, and dissolved when required in camphor water or distilled water. I never inject more than half a grain. I allow four minutes to elapse after injection before performing the operation. To prevent urethral fever—a purely nervous lesion—before passing an instrument I have used it in the form of a cocaine bougie. It is right to say that the use of local anæsthetics, such as cocaine, ether, or chloride of ethyl, may be overdone. The work of the surgeon may require to be done in too hurried a manner, not altogether satisfactory either to the patient or to the surgeon. Mental unrest, arising from a feeling of work imperfectly done, worries the surgeon; and in any operation requiring time chloroform is to be preferred to the local anæsthetic.

Pain given to a patient, whether in the dressing of a wound or in the examination necessary to make a diagnosis, is a most fertile cause of unrest. Confidence is lost between patient and surgeon; this is more especially true in children. When I hurt a patient I always feel I am doing or have done wrong. Healthy wounds are not painful; the healing of a wound is a physiological process closely allied to—in fact, it is—growth. Inflammation in our wounds can be avoided, and, if avoided, then pain as a cause of unrest is unknown. Pain is to be avoided by every means in our power. Any movement of the patient is apt to cause pain, and every endeavor should be made, in the examination of the patient, to avoid pain. Pain given to a patient, in making a diagnosis or in doing a dressing, is a fertile cause of unrest, and should be avoided, since it tends to destroy the confidence existing between patient and surgeon. This is especially true in children. In this connection the many-tailed bandage is eulogized as a means by which movement may be avoided in changing dressings.

One of the most frequent causes of local unrest in wounds and the free serous oozing which accompanies it is the use of unnecessarily strong antiseptics. We cannot avoid them altogether. We must use them in a thorough manner for the purification of our hands, of the skin of our patient, and for our instruments if we have not a sterilizing apparatus; but as regards the wounds itself, given an antiseptic wound to begin with, the less of the antiseptic the better; it is an irritant. A good many years ago a smart writer in a medical journal said, "Lister's arguments are getting stronger, his solutions are getting weaker." If he had said, "his arguments are getting stronger because his solutions are getting weaker," he would have been nearer the truth. Asepticism is taking the place of antisepticism. The extent to which this can be carried out will depend on the security we feel when we operate on unbroken skin that we have not introduced any causes of fermentation. If we have not this security, we must wash out our wound, after stitching, with an antiseptic, but let it be followed by an aseptic fluid in order to remove the antiseptic—the irritant—or, at any rate, see that no antiseptic is left in the wound.

Another aspect of Hiltonism is the use of absorbable drains, so that dressing of the wound is not required in order to remove the drain. Pressure and careful apposition of the edges and surfaces, combined with the absence of any irritating

antiseptic, have, to a great extent, done away with drainage of any sort; but here I think I have over-shot the mark, because if any bleeding occurs, and if the pressure is not accurate, accumulation of blood takes place, and delayed healing is the result. This has lately been one of my main troubles in wounds, and I recall three cases of excision of the mamma within the year in which this has occurred and delayed union. I think the safer plan is drainage for twenty-four hours during the time when reactionary hemorrhage is likely to happen. If India-rubber tubing is used it can be arranged so that it can be removed without disturbance or exposure of the wound; cause the tube to project beyond the wound surface, then the blood and serous discharge pass into the substance of the dressing, and have no tendency to pass along the skin surface to the edge of the dressing. Free evaporation through the dressing is all-important. Dr. Werne Clarke has recently brought under my notice a corrosive dressing in which the outer layer is impermeable to liquids, although it allows of free evaporation. This dressing is made by Robinson & Co., Chesterfield, and, from the trial which I have made of it, I think it will take a place in surgical practice. Drainage and rest are best attained in psoas abscess by a posterior opening in the angle between the outer border of the erector spinæ and the crest of the ilium, and in retro-pharyngeal abscess by an opening posterior to the sterno-mastoid muscle.

Use leaden splints to steady limbs after amputation and excision. Shape the splint so that it can be unfolded without moving the limb. Anchor the arm by the side with a leaden splint after excision of the mamma. Apply your pressure firmly, but always leave a distal portion of the limb exposed, so that, if it swells, then the pressure is overdone and the bandage must be loosened. We know pressure is properly applied to any part if it fulfils two conditions, painlessness and non-interference with the blood current through the part.

Horsehair stitches are valuable, combining rigidity with elasticity—rigidity acting as a splint steadying the edges, elasticity enabling them when cut to be removed without pain. After cutting a stitch, lay hold of the knot and pull towards the side on which the loop has been cut: in this way all strain on the edges of the wound is avoided.

A plaster applied over a boil in its early stages acts as a splint, steadies the part, and relieves pain. The boil is frequently aborted by this simple means.

These, gentlemen, are simple things, and I feel as I write that I owe an apology for their simplicity. They are, however, all illustrations of the effect which Hilton's work has had on my practice, and I hope they will be pardoned.

The value of extension in the treatment of fractures of the lower extremity is universally acknowledged, and it is perhaps not sufficiently used in fractures of the upper extremity and after excision of the knee and elbow. Excision is also of undoubted value in fractures, diseases and injuries of the spine, in sacro-iliac disease, and in fractures of the pelvis. It is most valuable in affections of the mobile portions of the spine—the cervical and lumbar regions. In the cervical region the head may be fixed by a hollowed sand pillow, a poroplastic splint, or with Fleming's rubber collar.



Treves has also demonstrated the value of rest in the treatment of enlarged cervical glands.

In all cases in which complete rest of the trunk is called for, use a thick and firm mattress made in three pieces, the central portion of which can be withdrawn for the performance of the acts of defecation in both sexes, and the act of urination in the female. The prevention of bedsores by the facility with which the sacrum and buttocks can be examined, and the dressing of these sores, when they do occur, is greatly facilitated by the triple mattress. In the diagnosis of injuries in the region of the hip, the use of Nélaton's line has been given up in my practice, because in order to reach the ischial tuberosity necessary for estimating the line the patient has to be moved. Its place is taken by noting the want of parallelism between two tapes, one passing through the anterior superior spinous processes, and the other through the tips of the great trochanters of the femur.

On the arrest of hemorrhage we have a valuable paper by Dr. Milne Murray in the *Edinburgh Medical Journal* of August and September, 1886, on the explanation of the action of hot water, which well illustrates rest. He shows that the general shock and the local reaction are greatly lessened after using hot water, as compared with the former method by means of cold. In epistaxis prevent the air passing through the nasal cavity by tightly grasping the nose, and the epistaxis will frequently cease, the part being kept at rest.

In cranial surgery, in the curved incision, as suggested by Mr. Victor Horsley, we have a means of restoring a flap to cover and give support to the denuded brain tissue or dura mater. In intracranial hemorrhage, intra- and extradural, we now feel justified in cutting down and arresting the hemorrhage by ligature, or by the hot douche; and from one case in which I operated on a person, comatose, with Cheyne-Stokes respiration, and a pulse of forty to the minute and on the point of death, I feel justified in recommending that, in apoplexy, an opening into the cranial and dural box is a justifiable surgical procedure, giving rest by relieving tension. This patient was shown by Dr. Smart at the Medico-Chirurgical Society of Edinburgh in June of this year.

In spasmodic wryneck we have the patient in constant unrest. But relief is given by excision of a portion of the spinal accessory nerve. In March, 1881, I showed a case at the Medico-Chirurgical Society of Edinburgh. From the result in that patient, and from similar cases which I have seen since 1881, I think the operation well worthy of more extended trial.

In rectal surgery gradual dilatation of the sphincter ani before operations gives rest after the operation, as it is followed by a temporary paresis. In colotomy the inguinal region is preferable to the lumbar, because mental worry is avoided by making an artificial anus in a situation which the patient himself has under command. In lumbar colotomy the *cul de sac* between the rectal stricture and the opening in the colon fills with feces and causes unrest. In inguinal colotomy, if the opening is intended to be a permanent one, I bring the whole lumen of the sigmoid flexure out as a loop through the wound in the wall, and fixed there with long pins passed through the abdominal wall

and mesocolon, and again through the abdominal wall, bringing the parietal peritoneum in contact with the visceral peritoneum. Stitches are a source of unrest; simple apposition is all that is necessary to obtain firm union.

In the ligature of internal piles the division of the mucous membrane at the anus with scissors before transfixion and ligature and tying the ligature tightly so as completely to strangulate the pile are both means which diminish pain after the operation. The pile mass dies without any inflammation; it dies of dry, painless gangrene. If this had been more frequently attended to, we should have heard less of other methods of treating internal piles. While I say this I desire most emphatically to express my complete accordance with Whitehead's view, that in cases in which the whole circumference of the gut is affected, excision is the most thorough and satisfactory method of treatment.

In disease of the bladder the systole and diastole of the organ may be checked by tying in a gum elastic catheter with the eyelet just within the viscus. To the other end of the catheter is attached a rubber tube which leads to a vessel containing water at the side of the bed, and in this way a siphon action is secured and the bladder is kept empty.

In tracheotomy, Hilton points out the value of rest to the inflamed larynx. One of the main objects of the surgeon is to prevent any blood getting into the trachea, and thence to the lungs, where it is the most fertile source of unrest, setting up pneumonia, the common cause of death after tracheotomy, when the death is not due to the disease for which the operation is performed.

In the treatment of cut throat, if we perform tracheotomy at once, and accurately unite the wounded surfaces, we attain more rapid healing, because the wound is not used as a funnel through which the air is admitted to the lungs. Movement of the parts is reduced to a minimum; the part, in fact, is kept in a state of rest encouraging and facilitating healing.

In the application of a bandage to varicose veins, let us see that it is applied before the patient gets out of bed, and taken off after he is in bed; so also in the application of a truss in hernia the same rule must be constantly followed. Allow the veins to fill, or the hernia to come down once in twelve hours, and the bandage or truss ceases to act as a curative, and only acts as a palliative agent.

Before I conclude I would wish it to be understood that there is another side to this picture, or perhaps it may be the same picture looked at from a different standpoint. It is that much harm may be done by too excessive attention to rest. Evil may result from too prolonged rest. Mechanical rest may, in one sense, be antagonistic to physiological rest. Mechanical rest, in many cases, must be interfered with in order to attain physiological rest. An example will best show my meaning. Immediately after an injury the effusions into the tissues may, by their presence, interfere with the normal blood current through the part. At a later date these effusions are replaced by organized material which will also act in the same way. The nerve equilibrium will also be altered. The part will then be, from the vascular and ner-



vous side, in a state of physiological unrest, and this unrest will be intensified by prolonged mechanical rest, because, unless there is a normal blood current, the effusions and fibrous material will not be removed. It is, therefore, necessary that, while we maintain mechanical rest after a part is injured, we should at the same time adopt some means to remove these products. It is here that massage is so valuable; lightly applied it has a marked soothing influence on the nerve disturbance; more strongly, though still gently, applied, it will get rid of the effusions by causing a temporary congestion and free flow of blood through the part; still more strongly applied, it breaks down fibrous adhesions and gets rid of the pain felt in certain movements of the limb. While the massage interferes with the mechanical rest, it acts directly in relieving the physiological unrest. Experience alone will tell how far we can go with massage in order to attain the one object—the physiological rest—while at the same time we avoid doing harm by its over-use by interfering with the mechanical rest. In acute sprains and strains it may be begun at once, gently night and morning, using elastic pressure with wadding and a flannel bandage in the intervals of massage. In subacute cases it may be used more freely, wearing an elastic bandage in the intervals, along with limited use of the injured limb. In chronic cases, which are non-tuberculous, adhesions may be freely broken down, often giving immediate relief after months of partial impairment of usefulness.

I am also strongly of opinion that in fractures near joints, as in Colles' and Potts' fracture, massage may with advantage be begun within a week, with the result that while the repair of the broken bone is in no way interfered with (I rather think it is aided), the limb is a useful one at a much earlier period than is the case if, as in the orthodox treatment, the limb is kept absolutely quiet for three or four weeks. If we think only of the broken bone and forget the injury to the surrounding soft parts, the result is a stiff and useless limb, which will for a long time be a source of discomfort and helplessness to the individual. It is a question exercising my mind whether we should not apply gentle massage in all fractures, as a matter of routine practice, so long as we can do so without displacing or causing movements between the broken fragments of the bone. The use of extension during the massage applied to the limb beyond renders this method much more feasible than it formerly was, when we depended entirely on splints applied at the seat of fracture commanding the joints above and below. It is interesting to note in this connection that no fractures heal more kindly and quickly than broken ribs, in which it may truly be said that during the whole process of cure the act of breathing is keeping up a constant gentle movement, a nature's massage, which in no way interferes with the union of the broken bone.

In breaking down adhesions in old standing cases of fracture, sprain, or strain, one must act in a decided manner. Their presence is associated with limited movement, pain on movement, or pain on pressure, and the use of firmly applied rotatory massage, or the sudden stretching of the tissues which are matted together, often gives immediate and lasting relief.

In the case of nerve stretching in sciatica, the

cases which are benefited are, in my opinion, those which may be called trade sciaticas, due to some special position adopted in the special trade pressing on and irritating the sciatic nerve. You freely stretch the nerve, but do not interfere in any way with the sensory and motor functions, and the pain is relieved by breaking down the fibrous adhesions in the nerve sheath and among the nerve fibrils.

New lamps may have been expected of me to-day; if so, my hearers have been disappointed. "Let us make a stand on the ancient ways, and then look about us and discover what is the right and straight way, and so walk in it." Bacon was fond of quoting this passage, and it has been my motto. I have taken my stand on an ancient way; I have tried to polish and refill an old lamp.

## AN ADDRESS

DELIVERED AT THE OPENING OF

### THE SECTION OF OBSTETRICS

*At the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891.*

By WILLIAM J. SMYLY, M.D.,

Master of the Rotunda Hospital, Dublin.

GENTLEMEN,—My first pleasing duty is to thank the Council for the honor they have conferred upon me in appointing me President of this Section. At the same time, I do not flatter myself that this selection has been made because of any peculiar fitness on my part to fill such an important post, but rather as a token of esteem for that great institution over which I have the good fortune to preside. The reputation of the Rotunda Hospital is due, I believe, not so much to its being the oldest and largest institution of its kind in these countries, but to the number of pupils which it attracts and sends forth annually to all parts of the world. The institution consists of four departments, and the numbers annually treated in each are about as follows:

|                                     |       |
|-------------------------------------|-------|
| Delivered in the Lying-in Hospital  | 1,200 |
| Attended in their own homes         | 1,800 |
| Admitted to Gynaecological Hospital | 450   |
| Out-patient Department              | 8,000 |

A good teaching institution must, in my opinion, comprise these four departments. Midwifery and Gynaecology must go together; they are sciences which God has joined together and should never be put asunder. In this I am quite aware that I differ from some who have occupied this chair before me, who have expressed a hope that this Section may soon split into two—a wish which I most earnestly hope may never be realized.

Some months ago a woman came to the Rotunda Hospital with a kyphotic pelvis, the tuberosities of the ischia being separated by an interval of only two inches; her former labor had been terminated by craniotomy, and she was very anxious to have a living child. I did not think that induction of premature labor would give any prospect of a living child, so I advised waiting until term and then Cæsarean section. To this she readily assented, so six weeks ago I performed the operation with a favorable result to mother and child. An exact diagnosis and careful measurement of the pelvis are essential preliminaries to scientific treat-

ment, and these are the duty of the obstetrician and not of the pure gynaecologist. For accurate pelvimetry I most strongly commend to you Skutsch's pelvimeter, which I now show, and which is the only instrument by means of which accurate measurements can be obtained.

A few weeks ago my assistant, Dr. Bagot, was called to a patient in the extern maternity. In a tenement house not far from the hospital he found a poor woman almost collapsed from severe accidental hæmorrhage, which had been at first concealed. The pulse was 148, very small and compressible; her lips were quite blanched, and her pupils dilated. There was jactitation and sighing respiration. The uterus was larger than the term of pregnancy, though the membranes had been ruptured before his arrival, in order to check the bleeding. The child presented in the first position, vertex, no foetal heart could be heard. The os, which was rigid and undilatable, admitted one finger only. On pushing up the head, the blood flowed freely out of the uterus. Labor had not set in, though she had all night suffered from severe distension and pains in the uterus. Believing that owing to her collapsed state it would be impossible to deliver her alive by perforation followed either by version or extraction with the cranioclast, he at once performed Porro's operation, treating the pedicle extraperitoneally by means of a *serre naud* and pedicle pins made out of two Peaslee's perineum needles, as he had no time to procure proper pins. The placenta was found at the operation to be completely detached, and the uterus was full of clots; the child of course was dead. She was removed to the Rotunda Hospital on the fourth day after the operation, and has made an excellent recovery, though still very anæmic.

The arbitrary division between midwifery and gynaecology is peculiar to this country, and is due to their separation in special hospitals, so that the gynaecologist has come to despise midwifery, and the obstetric physician is often a poor operator.

I would not deny to any man the right to limit his practice as he may see fit; he may treat piles only, or fistula, or cancer, or may confine his attention to abdominal surgery; but what I do maintain is that, in teaching, gynaecology must not be separated from midwifery, and their isolation places such difficulties in the way of students that practical midwifery is not efficiently taught, and the study of gynaecology is more or less optional.

Let me now give you an account of a septic outbreak which we experienced in the Rotunda Hospital during the spring and summer of last year, and of the measures taken to eradicate the disease. When I was appointed to the hospital on November 1st, 1889, there had not been one death from any septic cause for 18 months, that is, out of 2000 deliveries. These results were so brilliant that I thought it inadvisable to make any changes in the methods employed for the prevention of septic infection. I will briefly state what the routine then was. A patient was permitted to be examined abdominally by any number of students, but vaginally by three only and one pupil midwife. Previous to examination the external genitals were carefully washed with soap and water, irrigated with plain water, and finally bathed with corrosive sublimate solution, 1 in 500. The examiner's hands

were thoroughly cleansed with soap and water and a good nailbrush, the soap removed by irrigation with carbolic lotion, and the hands then washed in the sublimate solution. Prophylactic douching was only employed in cases of purulent or septic discharges and where operation was required. Douching after delivery was employed only when specially indicated. For example: in hemorrhage, after the introduction of the hand or instruments, after the birth of a putrid foetus, for putrid or purulent discharge, and in fever. For some months prior to my appointment plain water alone was used for uterine douching, and, though personally I was in favor of the use of antiseptics in such cases, yet with such good results I felt that the experiment might be continued. This favorable state of affairs continued up to January, 1890, when a patient, sent up from the country for induction of premature labor, died of acute septicæmia. It was exceedingly difficult in this case to excite uterine action, the catheter had to be inserted several times, and on one occasion caused some hemorrhage, having evidently caused a partial separation of the placenta. Hot douches, Barnes' bags, and rupture of the membranes had to be resorted to in order to procure delivery. Acute septicæmia set in the next day with a measly rash, and she died within a week. The health of the other patients during this month was excellent; in one other case only did the temperature reach 101°F.

In February there were 73 deliveries, and in 7 the temperature reached 101°. In March there were 108 deliveries, with 13 morbid cases in which the temperature reached 101°. This great increase in the morbidity alarmed me, and I exhorted the pupils to increased care in disinfection, but still the morbidity increased, twelve cases of high temperature—101° and over—occurring in the first fortnight. I therefore stopped all vaginal examinations, and all trouble ceased. It may seem strange to those who place reliance for information upon vaginal exploration only to hear that in a great institution where deliveries average 100 a month we would give up this method of examination; but by abdominal palpation all necessary information can be obtained, excepting only as regard prolapse of the funis and the condition of the os uteri; but the frequent examination of the foetal heart minimises the danger of the former case, and the latter is of quite secondary importance.

In April vaginal operations were resumed, and there were 12 morbid cases out of 96 deliveries.

In May 119 women were delivered, with 24 morbid cases and 1 death. In that case fever set in on the fifth day, and she died on the fifteenth. On looking over the bed cards I found that one gentleman who had examined her had also examined two other patients the same day, both of whom became dangerously ill, but finally recovered. I accordingly prohibited his attending the hospital for one month, and again forbade vaginal examinations, excepting only in particular cases when they were made by myself or one of my assistants.

In June vaginal examinations were again permitted, but only by one student, my object being to increase the sense of personal responsibility. During this month 106 women were delivered. There were 21 morbid cases, but all excepting one were unimportant; that one died on the fourteenth day. We now returned to antiseptic douching,



but, in July, out of 110 cases there were 14 morbid, most of them severe, and 1 death. This patient had a normal delivery, and was not examined vaginally. Her convalescence was normal up to the fifth day, when her temperature rose to 102°. Her uterus was washed out with carbolic acid lotion, 1 in 40, and some putrid clots came away. She was again douched out on two successive days, but pyæmic symptoms set in, and she died at the end of a week. Towards the end of August there were seven cases of severe illness, and I again resorted to the plan which I had previously found so successful, namely, stopping vaginal examinations altogether, but on this occasion without the former good results. Two cases proved fatal. On September 2nd another woman was confined, and ultimately died. The first of these three cases had been examined by one student only. Her temperature continued normal up to the fifth day, when it rose to 104.4, with headache and shivering. The uterus was washed out, and the temperature sank to normal, and continued so until the eighth day, when she left the hospital, having signed a declaration that she did so contrary to our wishes. The same evening she had a rigor, and her temperature rose to 106°. A week later she was readmitted to hospital with pyæmia, of which she died six weeks from the date of delivery.

The second case was not examined vaginally. Her temperature continued normal up to the fifth day, when it rose to 110.4° F. Septic symptoms set in with diarrhœa, and she died on the fifteenth day.

The last case was delivered on September 2nd. Her labor was normal, and she was not examined vaginally. Her temperature continued normal until the fourth day, when she also became septic and died on the twenty-sixth day.

In considering these cases the following points were important: One only had been examined vaginally, and in all infection was late, and was due apparently to some error in the management of childbed rather than of the labors. The method adopted up to this time during convalescence was introduced by my predecessor, Dr. Macan. Each patient was given a basin night and morning containing water, and a large piece of tenax, and was directed to wash herself, the object being to prevent the carrying of infection from one patient to another by the nurse. It struck me that this method was faulty because it would be impossible for an ignorant woman lying in bed thoroughly to disinfect her fingers, and I therefore directed that the probationer who attended a patient during her delivery should continue to do so afterwards, washing her carefully twice a day, and using the same antiseptic precautions as if she were making a vaginal examination. Each patient was also to have her basin placed over her bed, and to have it carefully disinfected with corrosive sublimate, both before and after using it; they had previously been kept on a dresser, and washed with warm water. Since that date we have had upwards of 1000 deliveries in the hospital, but not one death from any septic cause, nor even one case that gave us anxiety.

I hope, gentlemen, that I have not wearied you with these minute details. I have entered into them to show that puerperal fever can be prevented, and that the cause is generally something so

obvious that when it is discovered we are surprised at our own blindness in having overlooked it. It is generally held that septic infection is uncommon in private practice, but this I believe to be a dangerous mistake, and the same precautions are as absolutely necessary in private as in hospitals.—*Abstract Brit. Med. Jour.*

## AN ADDRESS

DELIVERED AT THE OPENING OF

## THE SECTION OF SURGERY

At the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891.

BY JOHN WARD COUSINS, M.B. LOND.,  
F.R.C.S.,

Senior Surgeon to the Royal Portsmouth Hospital, and Portsmouth and South Hants Eye and Ear Infirmary.

## RECENT ADVANCES IN THE TREATMENT OF TUBERCULOUS DISEASES OF THE JOINTS.

*The Modern Pathology.*—In the year 1882 the whole pathology of tuberculosis underwent a great evolution by the complete demonstration of the life-history of the tubercle bacillus. The disease occurring in any tissue of an organism must now be regarded as a specific disorder, the bacilli as the direct cause of all the morbid changes, and their presence as the distinctive sign of the disease.

Now, it is only by drawing a comparison between the old and the new pathology that we can really decipher the magnitude of the revolution in our conceptions. We no longer fight about the primary seat of the disease, for it is now certain that it may commence in any of the tissues of a joint. At the onset it may be synovial or osseous, and when the origin is in the latter structure it may select its surface or its substance. Strumous disease of the bones and joints is the same disease as tuberculous disease of the bones and joints; for in all these affections a specific deposit can be detected. Tubercle bacilli are never found but in this special product, and wherever the tuberculous tissue is discovered this microbe has obtained a resting-place. Their number may vary in the diseases of different structures, and also at different periods of the same disorder; still, when only a few are present they will be found by careful scrutiny.

The new pathology of tubercle is sustained by a mass of evidence derived from microscopic research, the artificial cultivation of the parasite, and experimental inoculation, so that the old notions which had long surrounded the disease have been numbered with the things of the past. The long-accepted causes, too, have been dislodged from their position, and are rightly grouped as morbid tendencies. The inheritance of constitutional peculiarities, the liability to chronic inflammations, and the susceptibility to external influences, are thus regarded as essential conditions, which help the microbe to establish itself within the body. Still, these factors are not less potent because the specific character of tuberculosis has been recognised. Hereditary proclivities and physical peculiarities of structure have not fallen into insignificance, but in their new position it will be possible to better estimate their potency.



*Arrest Possible in the Early Stage.*—The modern pathology of tuberculosis has already exercised a salutary influence over surgical treatment and the progress of conservative surgery. Its distinct recognition as a specific and infectious disorder, in all its various manifestations, has placed the hope of arrest on a very different basis to that which it previously occupied under the old constitutional theory. During the early stages of joint disease the morbid action is often localised, and, therefore, arrest is at least possible. There can be no reason why a joint or a bone should not recover, and the tuberculous infiltration atrophy, and ultimately shrivel into a fibrous scar, just like a similar deposit in the apex of a lung. If the number of bacilli found by microscopic examination in a part are to be taken as any indication of the activity of the disease, then repeated observations are favorable to the conclusion that incipient disease in the articulating apparatus is more hopefully situated than incipient disease in the pulmonary tissue.

A few years ago strumous children laboring under chronic joint disease were kept in bed for many months, but now expectant treatment can be carried out more hopefully by combining rest and protection of the limb with fresh air and exercise. The management of incipient joint disease has fortunately undergone a silent revolution through the mechanical genius of the late Hugh Owen Thomas, of Liverpool. His surgical appliances are admirably adapted for taking off concussion, arresting friction, and imparting support and protection without pressure; at the same time they are so simple in construction that the patient can adjust them without assistance. Thomas's splints have been utilised by surgeons in all parts of the world.

*Tuberculin.*—When, a few months since, the celebrated announcement reached us that a new remedy had been discovered which possessed the remarkable power of causing the necrosis of living tuberculous tissue, a new method of arrest appeared probable in recent cases, and material improvement in others of greater severity which would prepare them for surgical treatment. Although I have used the remedy in many cases of joint and bone disease without decided benefit, it will still receive from me a full and impartial trial. It is certain that it contains an agent which is capable, even in an infinitesimal dose, of exciting active changes in the body containing any traces of active tuberculosis. In the chemical aspects of microbial life, and in the complex bodies which are formed by the artificial cultivation of the bacilli themselves, we discern the direction from which we may anticipate future discoveries. I regard the search for a remedy amid the growth of these living particles as a splendid effort to reduce the magnitude of a world-wide pestilence, for which, up to the present moment, no really scientific treatment has ever been propounded. The great German investigator has not yet finished his work; let us patiently wait for his results, and keep ourselves free from prejudice, hoping that his daring assault upon the most deadly of diseases may ultimately be crowned with success.

*Early Efforts.*—Until the last few years, early operations in joint disease had scarcely received any attention. In 1878, Volkmann, the inventor of the cutting spoon, performed several partial excisions in recent cases of hip-joint disease, but his results did not stimulate him to further trials.

Since the year of the pathological revolution (1882) many favorable cases have been recorded, and I feel confident the practice, although still regarded by some as experimental, has already saved many limbs from graver operations.

*Advantages of Early Operation.*—Whenever the indications for surgical interference are clear, early operation must be attended with many advantages. The only hope of cure must depend upon the complete removal of the diseased tissue, and the facility with which this can be accomplished rests entirely upon the extent of the local mischief. The preservation, too, of useful mobility in the joint may be anticipated when the morbid process is well localised.

*Partial Arthrectomy.*—For the successful performance of a partial arthrectomy there must be clear evidence of a localised deposit. In some cases children have exhibited very little pain or lameness, but the joint has been in some part swollen, with the capsule thickened and the bones enlarged, but without any indication of softening or suppuration. By a well-directed operation, near the neck of the femur or the head of the tibia, search has been made for a spot of tuberculous infiltration, with the result that a carious cavity has been found and small sequestra successfully removed.

Another recommendation for early arthrectomy is the little danger that attends the operation. After a full incision in the most convenient position for exploration and carefully defining the disease, the infiltrated tissue must be excised with the scissors or cutting spoon, and the cavity thoroughly flushed with hot water.

A few months since I performed arthrectomy on a child for acute infection of the knee-joint. In 1889 the little patient was under my care, in the Royal Portsmouth Hospital, laboring under a small sub-periosteal abscess over the head of the tibia, close to the reflection of the synovial membrane. The swelling was freely incised, and a considerable deposit of caseous material cleaned out with the spoon. The bone was roughened perilously near the articular edge, and the parents were specially warned of the danger. Soon after the child left the hospital the swelling slowly recurred without either pain or lameness. In the month of July last she hurt her knee during a game of play. Acute pain immediately followed the accident, attended with rapid swelling of the joint and fever. Three days after, she was readmitted to the hospital under my care. The knee was at once freely opened on both sides, and the inner incision was carried through the abscess cavity through the head of the tibia. The capsule contained about three ounces of a turbulent fluid with many flakes. The infiltrated synovial membrane was freely excised with scissors, the joint thoroughly cleansed, and the limb carefully placed on a back splint. Irrigation was continued for a week. The child was discharged quite well in January. The movements of the knee are now normal, a result due to immediate treatment and the limited injury of the synovial membrane.

*Complete Arthrectomy.*—Permit me now to offer a few remarks on the surgical treatment of more advanced cases in which the morbid process is too extensive for any partial operation. In the performance of complete arthrectomy a free division of the ligaments and capsule is necessary for the

exploration of all the recesses of the articulation, and the excision of deep infiltrations of the synovial and osseous structures, so that the preservation of only a limited mobility must be anticipated. The whole of the pulpy granulation tissue must be dissected off, and the ligaments and cartilages carefully scraped. It is absolutely necessary to remove every particle of the diseased synovial membrane, and all tuberculous foci in the bones must also be cleanly cut out with the gouge. Care must be taken to prevent any remnants of the infective tissue being left behind on the raw surfaces, and the accidental reinoculation of the disease through the medium of the fresh incisions. I regard the method advocated by Mr. Arthur Barker, of flushing with hot water the seat of operation, to be the best way of carrying out these important precautions, and for the rapid performance of this part of the operation his ingenious scoop and irrigator will be found of great practical utility.

*Surgical Treatment in the Advanced Stage of Hip Disease.*—With reference to the old method of operating in the advanced stages of the disease, after suppuration has been proceeding for months, and sinuses have long riddled the soft parts, and when the unfortunate patient has been exhausted by a general tuberculosis, I sincerely hope it will soon be cast into the shade for ever by the light of modern progress. It is my experience that these distressing cases recover more frequently by simple measures, consisting of free incision, scooping, irrigation, and drainage, and that the ultimate results are more satisfactory than those which follow the practice of severe and dangerous operations.

In reviewing the progress of the past we must not give way to wonder and surprise, but rather calmly cultivate a spirit of confidence and anticipation, and be ready to accept fresh light from whatever quarter it may fall upon us. May we, like Sir Benjamin Brodie, desire, above all things, the attainment of the truth, and be ready to pulverize our most cherished convictions, and to cast them away for ever, when truth and progress demand of us the sacrifice.—*Abstract Brit. Med. Jour.*

## AN ADDRESS

DELIVERED AT THE OPENING OF

### THE SECTION OF THERAPEUTICS

At the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891,

By WILLIAM VICARY SNOW, M.D. LOND.,  
M.R.C.P.,

Senior Physician to the Royal Victoria Hospital and the National Sanatorium, Bournemouth.

In consequence of our more accurate knowledge of disease, and especially of those affections attended by febrile phenomena, since the introduction of the clinical thermometer much progress has been made in therapeutics. We have been able to more correctly estimate the action of remedies, not only in health, but in disease, and hence treatment has become more scientific and rational.

In specific disease we have learnt that it is not only the micro-organisms present which have to be considered, but that it is probable the chemical changes they set up play a most important part in

causing the phenomena of disease. It is well-established that certain zymogenic organisms give rise to a chemical product inimical to their own growth, and when of a certain strength sufficient to stop the process. The mortality from consumption is now in England not more than one-half of that existing during the first fifty years of this century, while the death-rate from this disease has increased in many countries. This grand result has been obtained by improved methods of treatment, sanitation, improvement in the workshops and dwellings of the laboring population, and especially by the subsoil drainage of towns.

At the International Medical Congress last year, it was announced by Koch that a remedy had been discovered which conferred on the animals experimented on an immunity against inoculation by the tubercle bacillus, and which would arrest tuberculous disease, and that the remedy would be tried on human beings.

Before the injection of tuberculin can be adopted as a recognised method of treatment for consumption, the following question must be answered in the affirmative: Can this treatment be carried on with reasonable safety? In very weakly patients and those with extensive and advanced disease, such a treatment must be attended with risk, and it is not surprising to hear that fatal results have directly followed the injection of tuberculin. The ten cases treated at Ventnor, the similar number treated in the Sanatorium, coupled with the experience of Dr. Coghill, at Ventnor, in private practice, and my own, inclines me to believe that tuberculin may be safely used in cases judiciously selected, under favorable circumstances. I will now as briefly as possible call your attention to the only three cases I treated in the Sanatorium in the year 1890, and I do so because I have been able to trace the results over a period of seven months from the first injection.

E.M. was admitted on November 6th, 1890. She had lost three sisters from consumption and other relatives; had been ill more or less for three years, and had had one attack of hæmoptysis. Her afternoon temperature ranged from 99° to 100°. The expectoration measured one-half ounce, was mucopurulent, and contained bacilli. The resonance was imperfect at the apex of the right lung, and the respiration bronchial; the left lung was affected to a less extent. The treatment was commenced on December 6th and completed on January 30th. Twenty injections in all were given. The patient had lost four pounds in weight in the previous fortnight, and lost six pounds more during the first four weeks of treatment. On January 30th the patient had very little cough or expectoration; did not react to 0.01 cubic centimetre, but bacilli were still present. She continued to steadily improve, and left the hospital on April 21st, having lost all cough and expectoration, and gained twelve pounds in weight from the lowest point. Her temperature was normal, and, on examination, the physical signs were found to have improved. The last expectoration contained no bacilli. She had been previously living at home without occupation; she now writes—July 2nd—that she has remained perfectly well, and has entered domestic service as nurse. As the patient was losing weight before, and for a month after, the commencement of the treatment, and had an exceptionally bad family



history, and as no symptoms of relapse have been observed up to seven months from the commencement of treatment, I think we may fairly claim that the disease has been arrested; no case of consumption can be considered cured until all symptoms have ceased for two years.

A.D. (dressmaker), æt. 18. Admitted Nov. 3rd. Duration of illness nine months. A sister consumptive. Had gained two pounds in weight before treatment commenced on Dec. 6th. Beyond slight dullness and prolonged expiration at the left apex, no physical signs existed; the expectoration was scanty, and contained a few bacilli; evening temperature, 99.8°. Eighteen injections were given, but, in consequence of the severity of the reactions (104.8°), the amount was not carried above 0.005 cubic centimetre. January 30th: Patient feels perfectly well, has no expectoration or cough, and has gained five pounds. Physical signs unchanged. She continued to improve and gained from the commencement of the treatment twelve pounds, and was discharged on April 22nd. She writes, July 2nd: "I think I am about the same weight as when I came home, having neither cough nor expectoration, nor do I perspire at night; I am also able to follow my employment without difficulty." You will observe that tolerance of the tuberculin could not be established, and that the amount of the disease was very slight. It is quite possible that to the change of climate and rest from work the improvement is due.

W.H. (footman), æt. 23. Three years before pleurisy with effusion, expectoration one-half ounce; muco-purulent, containing numerous bacilli. Considerable consolidation existed at the apex of the right lung, weak breathing was noted at the base, and dry friction in the right axilla. The left lung was only slightly affected at the apex. Sixteen injections were given from December 4th till January 17th, and then discontinued in consequence of a very severe attack of dyspnoea. Three times the expectoration was stained with blood; six times dyspnoea was noted. The febrile reactions were moderate. The treatment was resumed with a fresh supply of tuberculin on February 17th, and continued until March 19th; no reactions followed the use of 0.01 cubic centimetres; the patient was discharged on April 9th. He was feeling much better. The percussion note had improved and the breathing became more vesicular. The temperature was normal and the cough and expectoration slight. No bacilli could be found in the expectoration. He gained four pounds in weight before the treatment was resumed, and during it lost three pounds. He shall speak for himself as to his after-progress in a letter to the lady superintendent, June 12th:

MADAM,—I am very pleased to tell you I have improved in health very much since I left the Sanatorium. I have gained in weight seven pounds, and I have been in work a fortnight now, and able to do it with pleasure, and feel it only right for me to let you know the good I got at the Sanatorium through Dr. Koch's treatment. I have hardly any cough, and I get no pains at all.

Subsequent reports confirm the improvement in this case.

The treatment was carried out with the antiseptic precautions recommended, and no evil consequences followed the punctures. The patients

were placed under the best hygienic conditions possible—kept in bed during the febrile reactions, and fed mainly on a milk diet.

Stimulated by Koch's discovery, the inventive faculty of the profession has been at work, and, as I write, new methods of treatment are under trial, especially in Paris. May they be tried under more auspicious circumstances, and not prematurely introduced. Whether this discovery be a success or a failure, I feel that a line has been indicated pregnant with grand results, not only for the arrest of consumption, but also for the treatment of other diseases.—*Abstract Brit. Med. Jour.*

## Selections.

### OFFENSIVE LEUCORRHOEA ASSOCIATED WITH ACUTE ANTEFLEXION.

BY GRAILY HEWITT, M.D., F.R.C.P.,  
Emeritus Professor of Obstetric Medicine, University College.

The following case is one of great interest, both from a theoretical and from a practical point of view. A.B., single, aged 27, was brought to me for consultation on October 8th, 1890. She is a general servant, and has worked extremely hard. She is very conscientious, and during the last year she has frequently sat up at night to do extra work; namely, washing. During the last two years her health has been failing. The symptom which is the most distressing is the presence of a terribly offensive odor and discharge from the vagina. This has existed for nearly two years, being always very much worse during the week following menstruation. She is now obliged to have repeated change of linen, and the greatest difficulty is experienced in getting rid of the offensive smell from the rooms used by the patient. She looks ill and pale, there is pain at the epigastrium, also pain in the pelvic region, and she can only sit on the edge of a chair. On examination it is found that the uterus is large and broad, and anteflexed. The body of the uterus forms a retort-shaped mass, which lies low down behind and below the symphysis pubis. By means of the sound the uterus can be straightened, but doing this occasions much pain. The size of the uterus is that of a small orange.

The diagnosis formulated was: retention of menstrual *débris* with decomposition of same due to a pouched anteflexed uterus.

Treatment: Insertion of a cradle pessary and plenteous carbolic injections of hot water. Diet: Milk in large quantity.



October 15th. Much better as regards pain and offensive leucorrhœa. October 31st. Very much better. Wearing cradle, which controls the position of the uterus satisfactorily. The last period more as it should be. Has now begun to do a little. April, 1891. The offensive discharge has now ceased, the position of the uterus good. Local treatment continued. Takes food well, and in all other respects material improvement.

Whatever view may be taken of the above case, it is the fact that the reposition of the uterus at once produced an alteration in the vaginal discharge. The patient had previously been treated by injections, etc., unavailingly. By elevation of the body of the uterus the contents of the organ (retained menstrual products) more easily escaped, and their decomposition was prevented. The intensity of the ante flexion in this case was very noticeable, and I have never seen such acute ante flexion except in cases where very unusual exertion or a violent shock from an accident had been experienced. It is my belief that retention of menstrual products in cases of acute ante flexion is common. The rarity of the case above related is the long-continued putrescent character of the discharge.

The explanation of the putrescence is probably the detention of menstrual shreds in the cervical canal in contact with air passing into the vagina, or even possibly passing into the uterus. As regards the presence of air in the vagina, it occurs to me to mention that some years ago I saw a case in which, whenever the patient sat down to table, flatus was expelled from the vagina in the most annoying manner. It was found that the uterus was large and heavy, and markedly ante flexed. The vagina was distended like a ball. The opinion formed was that the air entered the vagina consequent upon exaggeration of the displacement, and a sort of suction action set up thereby. At all events the reduction of the ante flexion put an end to this disagreeable symptom. There was no such escape of flatus in the case above related, but the putrescence implies rather free admission of air into the vagina, which admission was probably favored by the ante flexion.—*Brit. Med. Jour.*

JOHN HUNTER is said to have been a "little man," being only 5 feet 2 inches high.

SULPHONAL POISONING.—This drug was introduced about three years ago as a safesoporific. Since that time reports have been published concerning its safety and efficacy, many speaking highly in its favor, but the poisonous dose could not unanimously be agreed upon. We have many cases on record where about three teaspoonfuls have been taken to obtain sleep; one of these is reported to have slept four days and four nights, awoke a short time, and then went to sleep another half day; he then got up, felt a little giddy, but beyond this no other trace of the drug remained. Another case is recorded where a man wanted to have a good sleep, and took about 30.0 grammes of sulphonal, went to sleep as desired, but never awoke. A more unusual case is now recorded by Dr. Ernest Neisser. A lad about fifteen years, chemist's assistant, desirous of making away with his own life, swallowed the contents of two boxes, containing fifty grammes each, making a total of one hundred grammes of fine pulverised sulphonal. He took the greater part of the two boxes in a solution of water, and left home, taking the remaining part dry, which he swallowed about three-quarters of an hour afterwards. He was found six hours later in an unconscious condition, and forwarded to an hospital, where he lay five nights and days perfectly unconscious. On the sixth day he began to awaken, and on the ninth day he left the hospital perfectly well. In this enormous dose we have a wider disparity than ever, when we find a strong healthy man dying from the effects of thirty grammes, while a lad of fifteen swallows one hundred grammes, awakes after six days and finds himself quite well.—*Med. Press.*

VASELINE AS A VEHICLE.—Carles thinks that benzoinated lard, as it is more easily absorbed, is a better vehicle than vaseline. Dulrenith admits that there are cases in which vaseline is much superior. Some substances, which quickly change when in contact with fat, are well preserved in vaseline, *e.g.*, mercury. The ointment of corrosive sublimate, or of the red oxide of mercury, is hard to keep when made with fat. Some drugs act in different ways, according to their vehicle. Thus, ichthyol, mixed with fat, has a powerful influence on certain skin lesions, diminishing the inflammation; whilst, made up with vaseline, it acts but superficially. When

absorption of the drug is not needed, vaseline is to be preferred, for it is also a great antizymotic. As vaseline is not absorbable, it offers advantages of no small value. Lard is quickly absorbed by the epidermis, which then dries, and cutaneous evaporation is not impeded. Vaseline does not dry; forms a tenacious impermeable varnish, underneath which the skin macerates. After two hours friction with fat, the skin is dry, whilst vaseline resists a whole day.—*La Cronica Médica*.

RECENT RABBIT DEVELOPMENT.—An article in the *Hobart Mercury* of May 4th gives some very interesting and curious facts concerning the development of a new sort of nail in the rabbits of Australia, in consequence of the animal's endeavor to climb over the wire netting used to impede their progress in travelling. The farmers have discovered that the rabbits can burrow under the netting unless it is buried some six or eight inches under the soil. Moreover, they can climb, or evidently intend to do so, after a little training, and to this end they are developing a nail which will enable them to hold on while progress is made upwards. This nail development has been noticed before, in Queensland, when the bark just out of reach was desirable of attainment, but to effect hand-over-hand nautical climbing shows the rabbit in the act of elevating himself in the scale.—*British Medical Journal*.

COCONUT BUTTER.—Coconut butter must not be confused with cacao butter. It is prepared from the kernel of the coconut, and is a white, odorless, and practically tasteless fat, melting at about 26°C. It appears to be distinguished by a high saponification degree, and by resistance to decomposing influences, including bacteria, for the development of which it does not form a suitable nutrient medium. This fat appears also to be much more easily digested than ordinary butter or lard; at least, this was indicated by artificial tests, and believed to be confirmed by the statements of patients "suffering from every form of dyspepsia," who were able to take it without experiencing any unpleasant symptoms. The "butter" is being produced in large quantities, and its economic value would seem to be already established.—*The Monthly Magazine of Pharmacy, etc.*

ALCOHOLIC SINGULTUS.—Dr. Smart reports the case of a man who, for several weeks, suffered from alcoholic singultus, and in whom recovery took place after collapse. The hiccup was severe and continuous, at the rate of sixteen per minute. The treatment adopted was washing out the stomach and feeding per rectum by enemata and suppositories. Morphia was administered hypodermically every three hours, a little chloroform being given, either in the form of the spirit or by inhalation, a little before each dose of morphia. Treatment began to do good in about thirty-six hours, when the hiccup diminished by about one-third. On the fifth day it ceased altogether, but the treatment was carried on for three days longer.—*Med. Press*.

No less an authority than Dr. Hughlings Jackson is responsible for the following: At a professional dinner party in London the conversation turned upon the subject of the remarkable development of specialism in the past few years. One of the gentlemen present declared that it had reached such a pitch that every possible portion or subdivision of the human body had now doctors and hospitals devoted solely to its treatment, except the umbilicus. He was, however, compelled to withdraw even this exception on being promptly reminded—we suspect by Dr. Jackson—that there were in that very city several *naval* hospitals.—*Vis Medicatrix*.

I THINK many of our examining boards have met this school boy at a somewhat maturer stage of his development. He was requested to briefly name and describe the divisions of the human body and the contents of each. "The body is divided into three cavities—the head, thorax, and abdomen; the head contains the brains, when there is enny; the thorax contains the lungs, liver, and diafram; the abdomen contains the bowels, wick is five in number, *a*, *e*, *i*, *o*, *u*, and sometimes *w* and *y*."

HOSPITAL SUNDAY.—The institution known as "Hospital Sunday" existed on the continent for a long time, but was only introduced into England in 1873, when Dr. James Wakeley, editor of the *Lancet*, started the Metropolitan Hospital Home Fund. Up to July 20, the fund this year had reached a total of \$208,000.

# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

*When a change of address occurs please promptly notify the Publishers, THE J. E. BRYANT COMPANY (Limited), 58 Bay Street.*

TORONTO, AUGUST 17, 1891.

## THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

In years past we have often referred to the British Medical Association as the greatest medical society that the world has ever seen. Its membership has reached the enormous number of 13,800, and is rapidly increasing (an error as to the number appeared in our last issue). Branch societies are being formed in various parts of the Empire. We referred recently to the three branches lately formed in Canada. The last meeting at Bournemouth, July 28 to 31, was largely attended and highly successful.

Through the kindness of the editor of the official organ of the Association (*The British Medical Journal*), we have received proof sheets, in galley form, of many of the addresses delivered at the meeting. We are taking a considerable space in this issue for the publication of abstracts of a number of these. Although at the time of writing *The British Medical Journal* containing these addresses had come to hand, still without the assistance referred to we would not have been able to give any portion of the addresses in this issue. Our abstracts, which in some instances are chiefly extracts, will be found interesting; but, of course, they cannot do full justice to the authors. We know of no better way of giving our readers an idea of the magnificent work that is done at these meetings, and if we could induce them all to make it a point to read and study carefully all the addresses, papers, and accompanying discussions, as they will be reported from time to time in *The British Medical Journal*, we feel that we would be doing good service.

The recent formation of the branch societies in Canada will do much to make our physicians take a greater interest in this grand organization, and will tend to give our friends in England, Ireland, and Scotland, a more intimate acquaintance with us. It is generally admitted that the success of the Association is largely due to the work of Mr. Ernest Hart, who has shown singular administrative ability in his management of all matters placed under his charge. He is particularly interested in the formation of branches in all parts of the British Empire. We sincerely hope our Canadian branches will be *active*, not passive, supporters of the mother society.

## TUBERCULIN.

We hear but little of Koch's lymph now, but there are a number of able physicians and surgeons who still have faith in the efficacy of the remedy. In addition, it is probable that the majority of the profession in all parts of the world believe that the distinguished German has made discoveries which will produce grand results in the near future.

In *THE CANADIAN PRACTITIONER* of July 16 Professor Ramsay Wright published a short paper on the dosage of tuberculin, in which he referred to the work of Guttman and Erlich at the Moabit Hospital in Berlin. The doses are much smaller than those formerly administered, and the results reported are very encouraging. It is certainly fortunate that the dosage has been changed in the right direction, because the great reduction removes, to a large extent, the grave dangers formerly connected with its use.

Recent reports from various quarters indicate that the quality of the remedy is much improved, and better results are being obtained on that account. It is fortunate that the reaction which followed the intense excitement of a few months ago has obliterated the feverish interest which the public manifested in the so-called "cure." Semi-theatrical exhibitions in certain parts of the world are not likely to be repeated. Scientific practitioners can watch its effects with calmness and deliberation.

We are pleased to notice that the physicians and surgeons of Great Britain, who are generally conservative and wonderfully level-headed about things new in medicine, have not agreed on a verdict against the remedy. On the contrary,



we learn from the records of the recent British Association meeting that many able and careful men are using the tuberculin with very satisfactory results. We have an idea that the next year will bring forth evidence to show that Professor Koch has discovered a remedy which will be of great value in the treatment of phthisis.

## Meeting of Medical Societies.

### PATHOLOGICAL SOCIETY OF TORONTO.

April 25th, 1891.

The society met in the Biological Department of the University of Toronto. The President, Dr. J. E. Graham, in the chair.

#### NECROSIS OF THE CALVARIUM.

Dr. Peters presented a specimen from the head of a child ten months old, who fell off a chair on a piece of coal, causing a scalp wound and laying bare the bone. Three weeks later the patient came to the extern department of the Toronto General Hospital, and was seen by Dr. Peters. At that time there was a large amount of swelling. Three openings were made but very little pus exuded: the bone was bare. After some weeks the bone appeared to be loose; so an operation was performed, and the sequestrum removed. A portion of the dura mater about two square inches in extent was exposed, covered by a gelatinous tissue, which was scraped away. Healing took place slowly. At intervals during convalescence there were some symptoms of cerebral irritation, and later there were fifteen fits in one day. The child was teething, and he thought the fits were due to that. Since the wound has completely healed there has been one fit. The part from which the sequestrum was removed is quite firm, and apparently new bone has formed. It is interesting to observe how much the dura mater will bear.

Dr. McPhedran read the following history:

#### PERNICIOUS ANÆMIA.

R.P.E., æt. 36. Barrister. Had always been a hard-working student, and had met with many reverses. Had always been healthy until two years ago, when he had diarrhœa with jaundice. Recovered in about two weeks. About six months later he noticed that he was losing color,

but paid no attention to his condition. He attended to his professional work regularly until about a month before his entrance into the Toronto General Hospital, March 8th, 1891. There he was extremely pallid, with a lemon-yellow tint. The conjunctivæ yellow from fat and œdematous; eyes quite protuberant. There was abundant subcutaneous fat. He was very weak, and his mental condition was not clear. He had diarrhœa, with frequent light yellow stools. Pulse small and weak; apex beat of heart diffuse; hæmic murmurs at base. The veins, especially on the backs of the hands, of a magenta color. The liver and spleen did not seem enlarged, but could not be accurately delineated. The urine was at first scanty; later, more abundant; fairly high-colored; sp. gr. 1012, no albumen. Blood contained about 700,000 r.c. per cmm.; no rouleau; corpuscles small, large, and irregular; the largest 12m. Temperature varied between 99° and 101°; there were no paroxysms. There was considerable pain in the abdomen and diarrhœa persisted; there was also occasional vomiting. On March 16th there was profuse epistaxis. On the 17th he died.

At the autopsy, an abundance of subcutaneous fat was found, and there was marked fatty condition of all the organs.

The condition found *post mortem* was then further described by Dr. John Caven.

Dr. John Caven presented specimens from a case of pernicious anæmia, and read report of *post mortem* examination.

*Post mortem* examination of the body of R.E., T.G.H., March 18th, 1891.

*Inspection*: Shows body of a male; apparent age, 35; general nutrition fair; rigor mortis fairly marked; *post mortem* staining almost nil; waxy-yellow color of skin; blood, crusted in antrales and mouth; eyes, very prominent, sclerotic yellowish, medium dilation of pupils, small subconjunctival hemorrhage on left eyeball, external orifices all right.

*Section*: Shows a large quantity of very yellow subcutaneous and subperitoneal fat; muscle very pale.

*Pericardium and Heart*: Three fluid ounces serous fluid in sac; no ecchymoses; one small milk spot over right ventricle, peri- and epicardial otherwise normal. Heart weighs fourteen and

a half ounces; covered deeply over right ventricle with fat. Right ventricle hypertrophied to one-quarter inch average thickness; also dilated. Left ventricle hypertrophied to three-quarters inch average thickness; dilated also; very beautifully marked fatty degeneration of muscle of internal surface of left ventricle and of papillary muscles; this condition not visible in right ventricle; malformation of aortic valves; two cusps continuous with low septum behind middle; edges and bases, thickened; valves, quite competent; mitrals, all right; auricles, foramen ovale, closed; walls, thin and dilated.

*Aorta*: Reddish staining of intima, as in septicaemia; vessel, very thin, and of small calibre.

*Pleura and Lungs*: Pleurae of left side completely adherent, showing very distinct parallel fatty bars; slight calcareous deposit in adhesions to diaphragm. Left lung, very pale and oedematous. Pleurae of right side, no adhesions; two and a half ounces of reddish serous fluid in cavity. Right lung, upper lobe shows marginal and apical vesical emphysema; hypostasis and oedema in lower lobe.

*Omentum and Peritoneum*: Very pale; much fat in omentum.

*Spleen*: Large, fourteen ounces; tarry black; soft, almost diffluent.

*Kidneys*: Each five ounces; large, very fatty; demarcation between cortex and medulla almost lost.

*Ureters, Bladder, and Prostate*: Healthy.

*Supra-renals*: Healthy.

*Intestines, small and large*: Very pale, distended with gas; slight catarrh; muscular coat thin; a few small hemorrhages into mucous membrane of jejunum.

*Appendix Vermiformis*: Four and a half inches long; lumen contracted till it appears like a fibrous cord, white and dense.

*Duodenum and Stomach*: Bile ducts, patent; catarrh of stomach; a digested patch in mucous membrane on posterior surface, close to cardia, size of a ten-cent piece; a few small petechiae in mucous membrane.

*Esophagus*: Healthy.

*Liver*: Four and a half pounds; pale, yellowish-red color; fatty; no lobules distinguishable; anæmic gall-bladder contains a small quantity of thick yellowish bile and mucus; ducts and veins, healthy.

*Pancreas*: Large, healthy.

*Brain*: Membranes, pachymeningitis interna plastica over frontal regions and vertex; firm plastic exudate firmly adherent to inner surface of dura mater; a few small points of hemorrhage into dura mater; considerable serous fluid in subarachnoid space. Brain, pale, firm; puncta vasculosa, poorly marked; nothing else visible noteworthy.

Orbit opened, and bulging of eyes found to depend upon a very large deposit of fat behind eyeball. Retina, very red, but no hemorrhages visible.

*Microscopic Examination*:

*Heart*: Muscle, extreme fatty degeneration.

*Liver*: Cells, swollen and smooth-looking, most containing finely granular, yellowish-brown pigment nuclei, often very large and vacuolated; cells, occasionally vacuolated also; interlobular connective tissue infiltrated with small round cells; capillaries much narrowed in places, and containing many nucleated cells, mostly uninuclear; sometimes three to five nuclei, occasionally large cells, with seven or more nuclei. Endothelial cells of capillaries swollen very greatly in places, and rarely containing within them small round cells, apparently leucocytes; large roundish cells in capillaries, containing brownish granules in large quantities.

*Kidney*: Cells, granular and fatty.

Dr. Macallum asked if sections of the kidney and other glands showed like endothelial hypertrophy. The alcohol is apt to extract the iron.

Dr. Caven had not found any enlarged endothelial cells in the kidney, but the cells lining the tubules were, in some places, reduced to a granular debris, and pigment was visible.

Dr. Graham asked if there was any striking want of blood in the vessels *post mortem*.

Dr. Macallum said the liver sections show very strikingly cell hypertrophy; this seems to point to the fact that pernicious anæmia is occasioned by absorption of a poison affecting the cells. It has been found that the poisonous extract of the germs of diphtheria and scarlatina injected hypodermically produced hypertrophy of the cells in the liver, and a certain amount of leucocytosis. An endothelial hypertrophy of the kidney occurred after injecting scarlet fever poison. It looks as if the poisons are capable of producing these results; they have also given rise to abscesses.

Dr. Graham referred to a case occurring five weeks after pregnancy, where the temperature was 101.2° F. The patient had done well after confinement, but then became weak. He thought it might be pernicious anæmia; but he found in one breast a mass of fluid, and evacuated a pint and a half of pus. There had never been any pain, rigors, etc. A few days after, the other breast went the same way, and in a day or two the patient died. It did not seem like an ordinary case of pyæmia. He wondered if the case had anything to do with extreme leucocytosis. The blood was examined, and the red cells were irregular in shape, and the white cells seemed to be dividing.

Dr. Caven said the leucocytosis in these liver cases was not to be compared to abscess formation. The mononucleated leucocyte is found in leucocytosis without pus formation. Pus cells are dead white corpuscles.

Dr. McPhedran asked whether pernicious anæmia is a specific disease or symptomatic merely. The question as to whether free iron is present or not is not settled. Is the poison referred to by Dr. Macallum as producing pernicious anæmia of a special variety, or is the anæmia simply symptomatic of the action of a variety of poisons? He referred to a case in point in which there was a doubt as to the diagnosis.

Dr. Macallum did not wish to be understood as holding that pernicious anæmia was due to absorption of a particular poison. Pernicious anæmia is a term used to describe a disease due to a variety of causes, having been found to result from syphilis, tuberculosis, etc. There may also be anatomical causes which produce pernicious anæmia.

#### CONJUNCTIVAL TUMORS.

Dr. R. A. Reeve presented two specimens.

(1) The first was a recurrent growth in a man past middle life. He was seen five years ago, and a growth from the conjunctiva and cornea was removed. It recurred two years later, and again, a few months ago, a third growth was removed. It was pale red, covering the superficial area of the cornea, implanted on the sclerotic conjunctiva and part of the outer part of the cornea. It was not firmly attached to the surface of the cornea, but could be undermined at the edges. The tumor looked like a

compromise between a granuloma and a papilloma. Dr. John Caven had found it to be composed of a mass of cells with little or no connective tissue. This would point to granuloma. He would expect from the history of the tumor to find it a sarcoma, but apparently it was not.

(2) The second case was one which looked sarcomatous—a growth extending from the conjunctiva and outer half of the cornea, thus damaging the sight, a serious matter for the patient, as it was the only eye that was functionally active. The tumor was dissected off and the cornea scraped perfectly clean, all the affected surface being removed. The cornea was quite vascular at one place, and bled freely. The wound healed readily without inflammatory reaction. He hoped this tumor was not really sarcomatous, but chiefly fibrous in character.

Formerly it was thought that these growths sprang from the cornea, but now they are all thought to grow from the limbus, and therefore are properly called conjunctival tumors.

Dr. Caven described Dr. Reeve's sections.

(1) In gross appearance looked like a minute papilloma. On section nothing but polyhedral epithelial-looking cells could be found, with no fibrous tissue.

(2) This tumor seems to be sarcoma. There are spherules of hyaline-looking material characteristic of cylindroma. The nuclei stain evenly throughout, and have not the vesicular appearance of epithelium.

#### PYOSALPINX.

Dr. Barker presented a specimen and read the following history:

M. H., female, æt. 24; admitted to Toronto General Hospital on April 11th, 1891, with following history: Always fairly healthy until one year ago, when she was in Toronto General Hospital suffering from some form of pelvic inflammation, said to have been "metritis." She was unmarried, but had been living a fast life at intervals; history of syphilis. About two weeks before admission she felt severe pain in abdomen; consulted a physician and improved under treatment; some days later a gentleman friend spent the evening with her, and as a result there was a recurrence of the severe abdominal pain, together with elevation of tem-



perature and general prostration. On admission her temperature was  $103\frac{1}{5}^{\circ}$ , respiration 26, pulse 108; complained of great pain in lower part of abdomen, particularly in right groin; vagina hot and tender, uterus fixed; fetid discharge from vagina; boggy mass at right of uterus; too much tenderness to examine carefully, no anæsthetic being used.

Morphine and hot applications ordered, vaginal carbolio douches, together with milk diet. Temperature next few days,  $100-102^{\circ}$ ; pulse, 100-120. On third day became delirious at times. On the evening of April 15th she complained of great increase in pain; abdomen distended; temperature  $104\frac{3}{5}$ , pulse 120; quinine in large doses ordered every two hours. Next morning temperature  $97\frac{3}{5}$ , respiration 30, pulse 98. At 11 a.m., she vomited and suffered marked rigor, lasting some twenty minutes, the pulse going to 134, perspiration profuse. At 2 p.m., temperature  $103\frac{1}{5}$ , respiration 50, pulse 140. Next morning temperature  $102\frac{3}{5}$ , respiration 60, pulse fluttering; died at 11 a.m.

*Post mortem.*—Examination of pelvic organs alone allowed. Uterus tubes and ovaries bound down in a mass of inflammatory tissue. Right ovary indistinguishable; large pus sac communicating with right Fallopian tube, running also into large sac behind uterus; would contain 6 to 8 ozs. Perforation of sac, contents escaped into peritoneal cavity; septic peritonitis; uterus adherent to bladder in front and rectum behind.

#### UTERUS AND FIBROID REMOVED BY VAGINAL HYSTERECTOMY.

Dr. Cameron presented a specimen from a patient who, some months ago, was suffering from a small fibroid with inverted uterus. For some time she had phlebitis in the legs, which delayed the operation for some months. The *ecraseur* was used to remove the tumor. It was doubtful whether or not the body of the uterus was removed along with the growth. The patient did uninterruptedly well.

#### TUMOR OF THE PONS VAROLII.

Dr. John Caven presented a specimen and said there had been bulbar paralysis followed by slight hemiplegia. On *post mortem* examination a tumor was found in the pons; there was symmetrical enlargement, the medulla be-

ing broader than normal. The anterior part of the pons for a quarter of an inch was normal, the tumor occupying the posterior portion. The basilar artery divided it equally into two parts. Microscopically it was found to be a small round-celled sarcoma.

Dr. McPhedran had seen the case some months ago. The history was that the child had had a fright, and there was a slight choreic attack followed by paralysis affecting the left side. The child did not speak distinctly, and there was a slight squint. The general appearance was that of diphtheritic paralysis, but against this there was the presence of the knee-jerk. The diagnosis lay between choreic paralysis, diphtheritic paralysis, and tumor at the base of the brain.

#### CARD SPECIMEN.

Dr. Nevitt presented a ligature removed from the scrotum after lying in the tissues twelve months.

## Correspondence.

*Editor of THE CANADIAN PRACTITIONER:*

SIR,—Perhaps the graduating class of '80 would like to hear from Dr. W. E. Macklin, who went some six years ago as medical missionary to China. I quote from a letter dated "Nankin, May 31st, 1891":

"I have had over 10,000 visits to my dispensaries this year, but have two good students to help me. We had a big mob here a few days ago; but having had word beforehand, we sent our wives and children to Shanghai. A mob tried to burn the M. E. mission hospital, but Mr. Nicols, one of the M. E. missionaries, bravely kept the mob away by showing a revolver till officials came to quell the riot. All is quiet now, and we seem to be in peace, but there are threats all over the country. Wahn, forty miles from here, had a riot, and the Catholics were burnt out. The M. E. mission had their girls' school in Nankin looted and fired, but the fire was extinguished.

"I am married to a sweet little American girl, and we have one boy. We enjoy life immensely, but our home is broken up now by the rioting. I hope I may return to America next year, but am not sure."

Macklin was a Toronto School boy, practised at Coldstream, near London, after graduating, then went to Japan, and finally China.

FRED. H. S. AMES.

SARNIA, ONT., July 20th, 1891.

## Reviews.

*A Practical Treatise on Fractures and Dislocations.* By Frank Hastings Hamilton, A.B., A.M., M.D., LL.D., late Professor of Surgery in Bellevue Hospital Medical College, and Surgeon to Bellevue Hospital, New York, etc. Eighth edition revised and edited by Stephen Smith, A.M., M.D., Professor of Clinical Surgery in the University of the City of New York, etc. Illustrated with five hundred and seven wood cuts. Philadelphia: Lea Brothers & Co., 1891.

This valuable work has now reached its eighth edition. It is, we consider, the most useful book for reference of those written on the special subject of fractures and dislocations. It would be difficult to conceive of anything more complete presented in so concise a form. We have in it faithfully detailed the special features presented to us in the different forms of injury met with in this department of surgical practice. The various methods of treatment which have been found of service are narrated, and their merits fairly discussed with due reference to the principles involved. The value of the work is enhanced by the rich amount of clinical experience which is recorded. The calm and clear judgment of its well-known author commands respect for his expressed opinions, and the well-earned popularity of the work will undoubtedly be maintained in the new edition, which has been ably edited by Dr. Stephen Smith. The book contains 841 pages and is profusely illustrated.

*A Treatise on the Diseases of the Nervous System.* By William A. Hammond, M.D., Surgeon-General United States Army (retired list), late Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons of New York, etc., with the collaboration of Græme M. Hammond, M.D., Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital, etc. Ninth edition, with corrections and additions. New York: D. Appleton & Co., 1891.

Dr. Hammond's treatise on the diseases of the nervous system is a work which has been long familiar to the profession and has attained a great reputation among the standard books for reference. In the preparation of the present edition, the author has been aided by his son-

A vast amount of clinical material is made use of, and the results of experimental investigation recorded. The book is written in a clear and pleasing style, and obscure conditions are dealt with in a manner which will prove of great assistance in the study of this most interesting class of diseases.

*Surgical Bacteriology.* By N. Senn, M.D., Ph.D., Professor of Surgery in the Rush Medical College, Chicago, and in the Chicago Polyclinic, etc. Second edition, thoroughly revised. Philadelphia: Lea Brothers & Co., 1891.

Dr. Senn has traversed a vast amount of literature in the preparation of this work. We have recorded in a concise form many of the more important experiments and the results attained by bacteriologists who have done so much to advance the study of this subject. The important bearing which the work of these scientists has on surgical practice cannot be overestimated, and we therefore welcome a work like Dr. Senn's, for in it we find the practical application of the knowledge we now possess of the life history of micro-organisms to the study of surgical affections. The book contains 259 pages and is well illustrated.

*International Clinics.* A quarterly collection of clinical lectures on Medicine, Surgery, Gynecology, Pediatrics, Neurology, Dermatology, Laryngology, Ophthalmology, and Otology. By professors and lecturers in the leading medical colleges of the United States, Great Britain, and Canada. Edited by John M. Keating, M.D., and J. P. Crozer Griffith, M.D., Philadelphia; and J. Mitchell Bruce, M.D., F.R.C.P., David W. Finlay, M.D., F.R.C.P., London. Illustrated. Sold by subscription only. Price per volume: Cloth, \$3.25; half leather, \$3.75. Canadian Subscription and Publishing Co., 821 Craig St., Montreal, Quebec, general agents for Dominion of Canada. Philadelphia: J. B. Lippincott Company, publishers.

The publishers of this work were fortunate in their choice of editors, whose names will at once inspire confidence both in Great Britain and this continent. They have endeavored to obtain the active co-operation of the best clinical teachers in both countries, and have received favorable responses from well-known men in all the principal centres of medical education. The lists in the various departments are so long that we have not space for even a fair proportion of

them. We think we can safely say that they could not be improved.

We cannot conceive of any sort of medical literature which could be more interesting and more beneficial to general practitioners than this. We have received the first volume, and find it is quite up to what the publishers' announcement would lead us to expect. The lectures are of the highest order, being sufficiently scientific, while they are eminently practical. We cannot properly review such a work, but we can indicate our opinion as to its worth. We have endeavored to do that in this brief notice, and hope our readers will understand that we give it our most hearty endorsement and our most cordial recommendation.

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*Materia Medica and Therapeutics, with special reference to the clinical application of drugs.* By John V. Shoemaker, A.M., M.D., Prof. of Materia Medica, Pharmacology, and Therapeutics, in the Medico-Chirurgical College of Philadelphia. F. A. Davis: Philadelphia and London.

Volume II. of this work, which now appears, is an independent volume on drugs. One cannot but be impressed with the number of drugs treated of. Scarcely any drug, now or ever used in medicine, is overlooked; many of them might well have been. Another unusual feature of the book is the number of prescriptions given with the description of the drug. This may be of value to imperfectly educated and lazy men, and no doubt enhances the selling qualities of the book; but it certainly seems out of place in a work so pretentious as this.

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### Pamphlets and Reprints.

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*Cancer of the Cervix Uteri in the Negress; with Pyrophysometra.* By Howard A. Kelly, M.D., Professor of Gynæcology in the Johns Hopkins University.

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*The Steps of the Cesarean Section; the Do's and the Don'ts.* By Howard A. Kelly, M.D.

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OXFORD UNIVERSITY has voted £7,000 to equip the department in human anatomy. At Harvard a similar proposition was voted down. Instruction in anatomy is now being recognized as essential to every University science course.

### Obituary.

DR. RICHARD L. MACDONNELL.—The medical profession of Montreal has suffered a great loss in the death of Dr. Macdonnell, at the early age of 38. It was the pleasure and privilege of the writer of this notice to have had an intimate acquaintance with the deceased for many years, and he long ago reached the conclusion that in "Dick" Macdonnell there existed a combination of those rare and good qualities which make the noblest specimen of a man that this country or any other country can produce.

He was educated in McGill University, where he graduated in arts and medicine. In 1876, after the receipt of his M.D., he went to London, where he remained a year and passed for M.R.C.S. Eng. On his return to Montreal he took a position on the teaching staff of McGill. He possessed to an unusual extent the instincts of a teacher, and distinguished himself in that capacity in more than one department. He probably attained his highest distinction in clinical work, and his appointment to the position of professor of clinical medicine in 1889 was highly appreciated by himself, and gave great satisfaction to both faculty and students in McGill. As a practitioner, he confined himself entirely to medicine.

Before he obtained a practice, his father, well known in former days as one of Montreal's ablest physicians, was killed by an accident. None but his intimate friends knew the difficulties that were thrown in his way for a few years. This is the period when his noblest qualities were most apparent. He fought his difficulties with indomitable perseverance and conquered them. The clouds which had hovered round him so long were uplifted. The world was now at his feet. He was recognized as a successful teacher and practitioner. He was happily married to an estimable woman. He was a tall, handsome man, with apparently a grand physique. Truly fortune was covering him with her favors and his prospects were exceedingly bright. Suddenly there came the news that he had had a serious hæmoptysis, and, worse still, a short time brought recurrences. A trip to England and a winter in the south of France caused an improvement, and gave himself and friends much encouragement. He returned to



his work and all seemed well for a couple of years. In June he appeared to get out of sorts, but there appeared no special cause for alarm. He gradually grew worse, however, and was confined to his bed only one short week before he passed through the dark valley.

DR. THOMAS ANDERSON RODGER.—The death of Dr. Rodger followed soon after that of Dr. Macdonnell, and the two events within so short a time will prove a great blow to the many friends of the two physicians. Dr. Rodger was a Scotchman by birth, but had lived in Montreal from the year 1857, when he came to Canada. He took his medical course in McGill, where he graduated in 1869. He immediately commenced practice at Point St. Charles, where he remained until 1884, when he moved to the western part of Montreal.

He was successful in all his undertakings and was exceedingly popular with both the profession and the general public. In 1883 he was appointed chief surgeon to the Grand Trunk Railway. The various surgeons throughout the country who had any business with him in that capacity will have good reason to regret his death. His great tact, kindness of heart, and sound judgment, contributed towards his signal success. No man in Canada had more warm friends than Dr. Rodger, and one and all of these, from the Atlantic to the Pacific, will receive the news of his death with deep regret and profound sorrow. In May last he had an attack of erysipelas associated with septicæmia, from which, we understand, he never fully recovered. We believe, however, the immediate cause of his death, which took place August 6th, at the age of 44 years, was pneumonia.

### Therapeutic Notes.

SALICYLATE OF SODA IN CANCER.—Dr. Mollière, a French physician, maintains that the internal administration of five or six grammes of salicylate of soda will relieve the pain of cancer in the womb, even after morphine has been given without effect. It is probable that smaller doses methodically administered would prove equally efficacious.—*The Monthly Magazine of Pharmacy, etc.*

GRINDELIA CIGARETTES IN ASTHMA.—The American physicians have called attention to the value of *Grindelia robusta* in asthma. It has been recommended for this purpose to make use of cigarettes made with tobacco which has been impregnated with the fluid extract of the plant in question; these are said to be efficacious in allaying the paroxysms of spasmodic asthma.—*The Monthly Mag. of Pharmacy, etc.*

GARGLE FOR THE RELIEF OF FÆTID BREATH.—*The Revue Générale de Clinique et de Thérapeutique* gives the following prescription for the relief of this condition:—

|    |                                 |                    |
|----|---------------------------------|--------------------|
| R. | Saccharine . . . . .            | } of each, 15 grs. |
|    | Salicylic acid . . . . .        |                    |
|    | Bicarbonate of sodium . . . . . |                    |
|    | Alcohol . . . . .               | 1 ounce.           |
|    | Essence of peppermint . . . . . | 10 drops.          |

A teaspoonful of this is to be placed in a wineglassful of hot water, and used as a gargle, once or twice daily.—*News.*

PRURITUS VULVÆ:—

|    |                               |        |
|----|-------------------------------|--------|
| R. | Sodium hyposulphite . . . . . | 5 3½   |
|    | Carbolic acid . . . . .       | gr. 30 |
|    | Glycerine . . . . .           | 5 2    |
|    | Water . . . . .               | 5 3½   |

Sig. To be applied locally.—*Buffalo Medical and Surgical Journal.*

### Miscellaneous.

THE weekly issue of the *British Medical Journal* is now 17,000.

PROFESSOR RUBNER, of Marburg, succeeds Professor Koch as director of the Hygienic Institute. He is only 37 years old.

THE Congress of American Physicians and Surgeons will be held at Washington, Sept. 22nd to 25th inclusive.

GROWTH OF PLACENTA AFTER DEATH OF FÆTUS.—At a recent meeting of the British Gynæcological Society, Mr. Lawson Tait showed an example of ruptured tubal pregnancy in which he found, on operating, a foetus eight weeks old, long since dead, and a great mass of placenta, which had evidently gone on growing long after the death of the foetus.

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Absolutely Safe, Agreeable, Scientific, and Strictly Professional.**

**FORMULA.**—*Listerine is the essential antiseptic constituent of Thyme, Eucalyptus, Baptisia, Gautheria, and Mentha Arvensis, in combination. Each fluid drachm also contains two grains of refined and purified Benzo-boracic Acid.*

**DOSE.**—*Internally: One teaspoonful three or more times a day (as indicated), either full strength or diluted, as necessary for varied conditions.*

Listerine is a well-proven antiseptic agent—an antizymotic—especially adapted to internal use, and to make and maintain surgical cleanliness—asepsis—in the treatment of all parts of the human body, whether by spray, irrigation, atomization, or simple local application, and therefore characterized by its particular adaptability to the field of

## PREVENTIVE MEDICINE — INDIVIDUAL PROPHYLAXIS.

Physicians interested in Listerine will please send us their address, and receive by return mail our new and complete pamphlet of 36 quarto pages, embodying:—

A Tabulated Exhibit of the action of Listerine upon inert laboratory compounds.

Full and Exhaustive Reports and Clinical observations from all sources, confirming the utility of Listerine as a general antiseptic for both internal and external use; and particularly

Microscopic Observations, showing the comparative value and availability of various antiseptics in the treatment of diseases of the oral cavity, by W. D. MILLER, A.B., Ph.D., D.D.S., Professor of Operative and Clinical Dentistry, University of Berlin, from whose deductions Listerine appears to be the most acceptable prophylactic for the care and preservation of the teeth.

## DISEASES OF THE URIC ACID DIATHESIS.

# LAMBERT'S LITHIATED HYDRANGEA.

## KIDNEY ALTERATIVE—ANTI-LITHIC.

**FORMULA.**—*Each fluid drachm of "Lithiated Hydrangea" represents thirty grains of fresh Hydrangea and three grains of chemically pure Benzo-Salicylate of Lithia, prepared by our improved process of osmosis; it is invariably of definite and uniform therapeutic strength, and hence can be depended upon in clinical practice.*

**DOSE.**—*One or two teaspoonfuls four times a day (preferably between meals).*

**Urinary Calculus, Gout, Rhenmatism, Bright's Disease, Diabetes, Cystitis,  
Hæmaturia, Albuminuria, and Vesical Irritations generally.**

We have had prepared for the convenience of physicians **Dietetic Notes** (sample of which is herewith shown), suggesting the articles of food to be allowed or prohibited in several of these diseases.

A neatly bound book of these **Dietetic Notes**, each note perforated for the convenience of physicians in detaching and distributing to their patients, mailed gratis upon request, together with the latest compilation of case reports and clinical observations bearing upon the treatment of this class of diseases.

**LAMBERT PHARMACAL CO.,  
ST. LOUIS, MO., U.S.A.**

## GOUT.

**DIETETIC NOTE.**—A mixed diet should be adopted, the nitrogenous and saccharine articles being used in limited amounts.

**Allowed.**—Cooked fruits without much sugar, tea and coffee in moderation. Alcoholic stimulants, if used at all, should be in the form of light wines, or spirits well diluted. The free ingestion of pure water is important.

**Avoid.**—Pastry; malt liquors and sweet wines are veritable poisons to these patients.

The Retail Drug Trade promptly supplied with our products by any Wholesale Druggist of Canada, or from our Canadian Depot at Toronto, by W. LLOYD WOOD, Agent.

# Wheeler's Tissue Phosphates.

**Wheeler's Compound Elixir of Phosphates and Calisaya.** A Nerve Food and Nutritive Tonic for the treatment of Consumption, Bronchitis, Scrofula, and all forms of Nervous Debility. This elegant preparation combines in an agreeable Aromatic Cordial, *acceptable to the most irritable conditions of the stomach*: Bone Calcium Phosphate  $\text{Ca}_2 \text{PO}_4$ , Sodium Phosphate  $\text{Na}_2 \text{HPO}_4$ , Ferrous Phosphate  $\text{Fe}_3 \text{PO}_4$ , Trihydrogen Phosphate  $\text{H}_3 \text{PO}_4$ , and the Active Principles of Calisaya and Wild Cherry.

The special indication of this combination of Phosphates in Spinal Affections, Caries, Necrosis, Ununited Fractures, Marasmus, Poorly Developed Children, Retarded Dentition, Alcohol, Opium, Tobacco Habits, Gestation and Lactation, to promote Development, etc., and as a *physiological restorative* in Sexual Debility and all used-up conditions of the Nervous System, should receive the careful attention of good therapeutists.

**NOTABLE PROPERTIES.**—As reliable in Dyspepsia as Quinine in Ague. Secures the largest percentage of benefit in Consumption and all Wasting Diseases, *by determining the perfect digestion and assimilation of food*. When using it, Cod Liver Oil may be taken without repugnance. It renders success possible in treating chronic diseases of Women and Children, who take it with pleasure for prolonged periods, a factor essential to maintain the good will of the patient. Being a Tissue Constructive, it is the best *general utility compound* for Tonic Restorative purposes we have, no mischievous effects resulting from exhibiting it in any possible morbid condition of the system. When Strychnia is desirable, use the following:

R. Wheeler's Tissue Phosphates, one bottle; Liquor Strychniæ, half fluid drachm.

M. In Dyspepsia with Constipation, all forms of Nerve Prostration and constitutions of *low vitality*.

**DOSE.**—For an adult, one tablespoonful three times a day, after eating; from seven to twelve years of age, one dessert-spoonful; from two to seven, one teaspoonful. For infants, from five to twenty drops, according to age.

*Prepared at the Chemical Laboratory of T. B. WHEELER, M.D., Montreal, Canada.*

*Put up in pound bottles, and sold by all Druggists at One Dollar.*

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## CHEVRIER'S WINE OF EXTRACT OF COD LIVER OIL

The WINE OF EXTRACT OF COD LIVER OIL, prepared by MR. CHEVRIER, first-class Chemist in Paris, possesses at the same time *Cod Liver Oil's* active principles and alcoholic preparations' properties.

It is valuable for persons whose stomachs cannot suffer greasy substances. Its effects, as the *Cod Liver Oil's*, is sovereign against SCROFULA, RACHITIS, ANÆMIA, CHLOROSIS, BRONCHITIS, AND ALL CHEST DISEASES.

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# THE CANADIAN PRACTITIONER

FORMERLY "THE CANADIAN JOURNAL OF MEDICAL SCIENCE."

EDITOR:

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TORONTO, SEPTEMBER 1, 1891.

## Original Communications.

### DEVIATIONS OF THE NASAL SEPTUM.\*

BY DR. PRICE-BROWN, TORONTO.

Although so little noted, this subject has long attracted the attention of the medical profession. Quelmaz,<sup>1</sup> in the eighteenth century, is said to have written the first monograph upon it. From time to time many able papers afterwards appeared. Latterly, however, there has been a decided interest in this direction, and during the last ten years an enormous amount of literature upon the nasal septum has been thrown upon the professional world. Besides general treatises upon the subject by a dozen standard authors upon "Diseases of the Nose and Throat," no fewer than twenty-five complete monographs upon "Deviations of the Nasal Septum" have been issued by European and American writers; and a score or more other able articles, by equally well-known men, have been written upon the anatomy, etiology, or treatment, of this exceedingly interesting and prevalent malformation.

*Pathological Anatomy.*—It is a well-known fact that deviations of the septum are among the most common of anatomical phenomena; still, the percentages given by different writers differ very materially.

<sup>2</sup>Zuckerkandl found deviations in 37.8 % of 370 cases.

Bryson Delavan - - - 50 % of his cases.

Allen - - - 68 % of his cases.

|              |       |                       |
|--------------|-------|-----------------------|
| M. Mackenzie | - - - | 76.9 % of 2152 cases. |
| Jarvis       | - - - | 80 % of 100 cases.    |
| Zedziak      | - - - | 83.5 % of 200 cases.  |
| Simanousky   | - - - | 95 % of 974 cases.    |
| Heyman       | - - - | 96 % of 250 cases.    |

While Sheck,<sup>3</sup> one of the most prominent amongst Polish rhinologists, uses the following words: "It can be assumed that hardly a single individual has a perfectly straight nasal septum." Contrary to this, however, Zuckerkandl<sup>4</sup> maintains that asymmetry does not occur prior to the age of seven years; a statement which is not borne out by other writers.

With reference to the influence which sex has upon the frequency of deviation, authorities are not agreed; the majority of physicians, however, believe that it occurs more frequently in the male sex than the female, the reason assigned being the greater exposure of the former to accidents.

Civilization appears to be a very important factor in the production of deviations; for invariably the septa of aboriginal races are more symmetrical than those of their civilized brethren. Among the latter, some affirm, the greater the culture the greater the tendency to asymmetry. Bryson Delavan<sup>5</sup> believes that the Jews and Slavs have an idiosyncrasy in this direction; his statement being supported by Zedziak<sup>6</sup> as well as by Simanousky's tables.

Deviations of the nasal septum occur most

\*A paper read before the Ontario Medical Association, June 3, 1891.

1. "Programme de narium earumque septi incurvatione." Lipsie, 1750, p. 7.

2. *Journal of Laryngology*, March, 1891, p. 86.

3. "Die Krankheiten der Mundhöhle, des Rachens und der Nase," 3rd edition, 1890, p. 240.

4. "Anatomie der Nasenhöhle," 1882, p. 45.

5. *New York Medical Journal*, 1887.

6. *Journal of Laryngology*, March, 1891.

frequently in connection with the anterior or cartilaginous portion, the so-called "cartilago-quadrangularis." In some cases they extend half way back along the junction of the perpendicular plate of the ethmoid with the vomer; but the posterior half of the latter, according to the reports of the best authorities, is never deflected. One happy result of the confinement of these deformities to the anterior portion of the septum is that it renders them accessible to treatment. The subject of classification of deviations is not a satisfactory one, as almost every writer originates one for himself. Lowenberg divides them, according to the situation and direction, into superior, inferior, horizontal, and vertical. Jarvis into osseous, cartilaginous, and osseo-cartilaginous. Zedziak gives two main divisions: (1) Simple deviations to one side or the other. (2) Deviations with partial thickenings. Of course these are both subdivided still further, while combinations of both divisions may be found in the patient. Mackenzie, Ingals, and Rosenthal each have their own special list. Bosworth,<sup>7</sup> on the other hand, as no two cases are alike, discards all classification, treating each distinct case upon its merits.

For practical purposes, Zedziak's division would seem to cover the ground. (1) Deviations without thickening. They may be to the right or left, a mere bending of the cartilage, with a concavity on the opposite side of each convexity. Sometimes the curvatures are sigmoid, having two curves in opposite directions in the one septum, or they may be irregular without well-defined form. This class are by far the most numerous, covering the vast majority of all human septa; and where no impediment to nasal respiration is produced, surgical interference is uncalled for. Zedziak's second group consists of deviations produced by partial thickenings, in the form of spinæ or cristæ. These are comparatively frequent, and in the majority of cases occur where asymmetry exists, though perfectly straight septa are not always free from them. The spinæ are real spurs, and may be either rounded or sharp pointed. They are usually situated at the anterior part of the cartilaginous septum, near the entrance of the nasal cavities, and opposite the inferior turbinated bone. Sometimes they arise further back-

wards, and, in rare instances, from the suture of the plane of the ethmoid with the vomer. Cristæ or ridges are like spinæ with an elongated origin, extending perpendicularly or laterally; in some cases completely occluding the passage.

According to Woakes,<sup>8</sup> both varieties of thickening are produced by a slow inflammatory process, resulting in the formation of a buttress of hypertrophied cartilage or bone. That the deformities are in some measure the result of inflammatory action is proved by the histological investigations of Miot and Duret, who found these prominences to consist of plastic infiltration, establishing the fact that they were the result of true perichondritis.

*Etiology.* The causes of deviation of the nasal septum, particularly when unattended by thickening, are often very obscure, and, consequently, many theories have been advanced upon the subject by experienced rhinologists. Jarvis and Gleitsmann supposed them to be hereditary. Duplay, Woakes, and Stoker regard deviations as congenital. Morgagni and Chassaignac<sup>9</sup> believe them to arise from excessive development of the vomer. Trendelenberg<sup>10</sup> suggested the idea that the septum was forced out of place by a highly-arched palate. While Zuckerkandl, apparently unimpressed by theories of heredity or development, affirms that deviations of the septum never occur until after the seventh year. Bosworth, after an exceedingly large clinical experience, expresses the view that traumatism is by far the most frequent cause of all varieties of septal deformity. He says that even in those cases in which direct injury cannot be verified, it is safe to assume that injury has occurred, although so slight as to escape notice until the subsequent more serious results have become manifest.

Injury to the nose, insufficient to produce fracture, is not always followed immediately by deformity. It may, however, set up a low grade of morbid action, lasting for years, and in the end producing more or less stenosis upon the affected side. In early childhood, owing to the softness of the parts, falls on the face are especially liable to produce sutural injury, followed by slow inflammatory hypertrophy, and the formation in course of time of

8. *Journal of Laryngology*, October, 1890.

9. "Bulletin de la Société de Chirurgie," 1351-2

10. Cited by Schaub, loc. cit.

7. "Diseases of Nose and Throat," 1889, p. 283.

spurs or crests. Two points are worthy of notice here: (1) That the morbid lesion is produced by a process of cartilaginous development. (2) That the chronic catarrh, so frequently following such cases, does not usually occur until long after the date of primary injury. This, of course, refers to cases of minor degree.

Of the severer cases of deformity, traumatism of a direct nature is usually the cause. By a fall or blow upon the nose the cartilago-quadrangularis is fractured or dislocated, forcing it directly into one or other rhinal cavity, and exhibiting, when first discovered, a projecting crest, impinging in many instances upon the corresponding lower turbinated bone, and producing stenosis. In deviations of an idiopathic origin, a frequent cause would be enlargements of the spongy bones, the presence of neoplasms or exostoses, etc., the septum in these cases yielding and projecting into the opposite rhinal cavity. The columnar cartilage, owing to its situation at the very entrance of the nostrils, is sometimes displaced by the habit of pressing the nose to one side in using the handkerchief.

*Symptomatology: Objectively.*—Septal deformity may be recognized in many cases. Sometimes the tip of the nose is directed to one side, while the bones are directed to the other; in others, the whole organ is thrown to one side; while in a third series want of symmetry in the nostrils indicates displacement of the cartilaginous septum or the columnar cartilage.

*Subjectively.*—The symptoms are widely different, according to the degree of stenosis produced. In very many cases, where the deviations are simple and unaccompanied by spinæ or cristæ, symptoms are entirely absent.

In others of a somewhat severer character, the ear or throat are chiefly complained of, while the nose remains unnoticed. Usually, however, the primary symptom is that of nasal obstruction. Nasal breathing on the side affected becomes impaired, followed by a series of changes in the mucous membrane, which in the end produce chronic naso-pharyngeal catarrh. The symptoms may be divided into two principal groups, the mechanical and the nervous. Within the former may be placed everything occurring directly from the narrowing of the cavity at the point of deviation. Thus, inspiration through the obstructed channel produces rarefaction of the air

immediately behind it, with diminution of atmospheric pressure, followed by congestion and swelling of the mucous membrane and hypertrophy of the turbinates. When the deviation is extreme, particularly when large cristæ are present, the stenosis on the affected side may be complete, compelling the other nostril to do the whole work of respiration. This extra duty not only causes hypertrophic rhinitis, but also mouth breathing, from deficient nasal capacity, with dryness of throat, pharyngitis sicca, as well as all the distressing symptoms of chronic nasal catarrh. More remote symptoms are produced in the lower throat and larynx. When the air is breathed *per vias naturales* over the healthy turbinated tissues, it acquires before reaching the larynx the proper temperature and saturation from the serous discharges from these bodies. When, however, it is deprived of this heat and moisture by mouth breathing, the raw air comes directly in contact with the larynx, producing chronic laryngitis, and in some cases even papilloma. Anosmia and Eustachian disease, with deafness, are also among the ultimate results which not infrequently occur. When the stenosis is near the nostril, a sinking or flapping of the ala is sometimes present during inspiration. This was particularly marked in a patient I had under treatment a few months ago. Epistaxis, according to Bosworth, owes its origin more frequently to deviation of the nasal septum than to anything else. The outstanding prominences of mucous membrane allow hard particles of dust to impinge directly against them, causing erosions of the capillary walls and consequent hemorrhage. The voice is often affected by deviations, becoming thick and nasal in character. Among the nervous symptoms are sneezing, spasmodic irritation of the eyes, pain at the base of the nose, frontal pain, asthma, hay fever, etc.

*Diagnosis.*—This is based entirely upon anterior rhinoscopic examination, and, with the application of cocaine, can be arrived at without difficulty. As Zedziak says, "The time is passed for deviations of the nasal septum ever to be taken for polypi or fibroma." Growths of this nature are always movable, while the septum, whether deviated or not, continues rigid. Although exostoses and enchondromata may likewise be hard, they stand out distinctly from the septum and are thus distinguished from devia-



tions. Malignant disease would have its own peculiar history. Syphilitic perichondritis of the septum has a bright red color, with soft touch, quite foreign to simple deviations.

Prognosis is generally favorable. Removal of the stenosis by surgical operation is usually followed by normal nasal breathing, relief of the catarrhal symptoms, and restoration of the natural voice. Of course subsequent treatment until complete healing is also required. Where asthma or hay fever is the result of deviation, the removal of the latter always favorably modifies the neurotic disease.

*Treatment.*—Happily the great majority of cases of deviation of the nasal septum do not call for treatment. Where the deformity is merely a flexion, whether unilateral or sigmoid, without producing sufficient stenosis to obstruct nasal breathing, surgical interference is not required. A large number of persons carry septal deformities from childhood to old age without ever becoming sensible of their presence, either from nasal stenosis or resultant catarrhal symptoms. Again, a large number of cases of spinæ occur which never produce sufficient respiratory or catarrhal difficulty to render their removal advisable. The essential feature which demands treatment is presence of stenosis, which, as a rule, is traumatic in its origin, and rarely comes into the hands of the specialist for treatment until long after the disorganization has become permanent and solidified.

If, immediately after injury, the surgeon in charge, instead of contenting himself with obtaining for the patient an æsthetically presentable nose, were also to apply a solution of cocaine to the fractured septum, and then press it into place by means of instruments always at his command—retaining it in situ by a tampon of antiseptic absorbent cotton or sponge tent—many of these deviations, with all their attendant evils, might be avoided. Three cases of this nature, which might have been prevented, were treated by me during the last few months. (1) A child of seven years. One nostril was completely occluded by a distorted fractured septum. The injury had been produced by a fall one year previously. The septal condition was not discovered by his physician until a few days prior to my first examination. (2) A gentleman, æt. 50 years, was kicked by a horse nearly a year

before, producing fracture of the septum, with great deformity. This was not noticed by the patient until the left ala commenced to flap on inspiration. (3) A young lady who had been thrown from a horse, injuring her nose, had, as a result, a large curved crest, which pressed for its whole length against the right inferior turbinated. The internal injury was not discovered until solidification had taken place. In each of these cases the deformity, to say the least, would have been very much less if the surgeon at the time of injury had followed some such plan as I have suggested.

I can but glance at the different methods of treatment in vogue since Quelmaz, a century ago, proposed daily digital pressure as a corrective.

Palliative treatment by sprays, washes, unguents, etc., has little temporary and no permanent effect; consequently, radical or surgical treatment of one kind or another is the usual practice when stenosis is sufficiently great to demand interference. Forty-five years ago Diefenback<sup>11</sup> advised that the projections should be sliced off with a knife. In 1847 Heylen<sup>12</sup> dissected back the mucous membrane, and cut off the protruding part with scissors. Chassaignac<sup>13</sup> in 1851 adopted a nicer surgical procedure. After dissecting back the mucous membrane, he made a number of incisions through the cartilage, and, pressing it back to its normal plane, held it there by tampons until it became solidified. Ingals<sup>14</sup> improved upon this by excising a V-shaped piece of the deflected cartilage and afterwards applying sutures; while Seiler and Heyman removed the projecting portion with a carpenter's chisel. Of punches, those of Blandin and Roser were frequently used, until Steele,<sup>15</sup> in 1879, introduced his stellate punch, which is now considered the best of this class of instruments. In 1875 Adams<sup>16</sup> constructed a forceps for straightening the septum. Jurasz<sup>17</sup> in 1882 improved upon this, and the combination, called the "Adams-Jurasz" is now used by a large number of rhinologists. After cocainization, the blades are introduced into each nostril separately, fastened together by a screw, and the pressure increased until the septum is

11. "Die Operative Chirurgie," Bd. 1, Leipzig, 1845.

12. "Annales de la Soc. de Méd. d'Anvers," Gaz. Méd. 1847, p. 810.

13. "Gaz. des Hôpitaux," 1851, p. 420.

14. "Arch. of Laryngology," vol. 3, p. 297.

15. St. Louis Courier of Medicine, May, 1879.

16. British Medical Journal, Oct., 1875.

17. Berlin Klinische Wochenschr., 1882, No. 4.

crushed or refractured and straightened. Then the handles are removed and the blades left in position for two or three days. The whole procedure, notwithstanding the frequent application of cocaine, is said to be exceedingly painful. After removing the blades, Jurasz employs ivory olives, fastened together and held in the nose for some time, until the septum gets accustomed to its central position again. Many writers use the galvano-cautery for the removal of deviations. Among them are Stoker, Voltolini,<sup>18</sup> Walsham, and Zedziak.<sup>19</sup> It is particularly useful in the case of cartilaginous spurs. Bronner and Lennox Browne advocate the dental drill, while Jarvis<sup>20</sup> speaks very highly of the electro-motor drill. Electrolysis has recently been received largely into favor, particularly in France, where it was introduced last year by Moure and Bergonié.<sup>21</sup> Dr. Moure read a paper before the International Congress at Berlin largely dealing with this method of treatment. They employ electrolysis in two ways: (1) The so-called unipolar positive puncture; (2) the bipolar galvano-puncture. In the first, a large indifferent electrode is attached to the negative pole and placed between the scapulæ, while the positive pole is attached to a steel needle and inserted into the centre of the deflected portion of the septum. A current of 30 milliamperes is sufficient. Each sitting lasts from ten to twenty minutes. In the second, each pole is attached to a needle, and both are inserted into the deviation, care being taken that they do not touch. Of course, cocaine is used in each case; still the treatment is painful and tedious, and not always successful. Some years ago Woakes made the first use of the saw, followed shortly afterwards by Seiler. It remained, however, for Bosworth<sup>22</sup> to place the nasal saw in its proper and important position as the most efficient and satisfactory of all instruments in the treatment of septal deviations. As early as 1887 Bosworth reported as many as 166 operations which he had personally performed. Since that time he has added hundreds of others to his list, with a very large percentage of satisfactory results. The saws are narrow in blade, varying from  $\frac{1}{8}$  to  $\frac{3}{16}$  of an inch in width. They are several inches long, and attached to

the handles at an angle of 45°. After anæsthetising both nasal cavities with a strong solution of cocaine, the saw is introduced in such a position that, in cutting, the whole of the projecting portion can be removed, the object being to restore, as far as possible, the natural outline. To use Bosworth's words: "It is to be sawed down, as we saw a board out of a log." After entering the instrument, the sawing is done with as rapid a motion as possible, consistent with precision, and continued downward through bone and cartilage until it emerges below. In some cases it is more convenient to cut upwards, using a blade with the teeth on the upper edge. In others both methods are necessary, the cuts meeting each other at the centre of deviation. The fragments are easily removed by forceps, and projecting points can be trimmed by scissors or galvano-cautery. Usually the hemorrhage is not severe. The contraction of the capillaries produced by cocaine no doubt lessens the tendency to bleeding. Sometimes, though rarely, plugging is necessary.

In many of the operations practised for the removal of deviations, the surgeon endeavors to preserve the mucous membrane by dissecting it backwards, and subsequently reattaching it by sutures. In Bosworth's method no such preservation is attempted. The mucous membrane covering the outgrowth is simply removed with the rest of the fragment. As the part heals, new membrane is proliferated from the marginal epithelium, and in a few weeks a new mucous membrane usually covers the surface without producing either ulceration or cicatrix. The danger of perforating the septum with the saw is not nearly so great as one might suppose, for the reason that there is always marked thickening or hypertrophy at the seat of the fracture. Bosworth, in his new work issued last year, states that perforation has only happened once in all the cases treated by him. In my own cases, when either cristæ or great thickening were present, I have, as a rule, followed Bosworth's plan; but I have also found a course of daily after-treatment necessary in order to obtain the best results. Spraying out the passage with Dobel's solution, following this by a 2 per cent. solution of cocaine and then inserting absorbent cotton soaked in albolene and repeated every twenty-four hours for the first three or four

18. "Die Krankheiten der Nase," 1888, p. 103.

19. *Journal of Laryngology*, April, 1891, p. 145.

20. *New York Medical Record*, April, 1888.

21. *Journal of Laryngology*, December, 1890.

22. "Diseases of the Nose and Throat," 1889, p. 303.

days, I have always found soothing and grateful to the patient. After that the tampon was discontinued, and a weak solution of menthol in albolene used by atomizer instead. It is a matter of importance to prevent that dry incrustation which is apt to take place up to the period of perfect healing, and nothing seems to promote that end so effectually as mild oleaginous fluids atomized. In removing cartilaginous spurs I have followed Zedziak's plan of applying the galvano-cautery, and in many instances it has done all that could be desired—the application of a 15 per cent. solution of cocaine removing all tenderness during the period of operation.

In closing, I would like to say one word about the marvellous efficacy of cocaine when used for nasal operations upon children. In March last, R.R., a timid little fellow of seven years, sat perfectly still in the operating chair, with his eyes wide open, while I sawed out a crest filling the left nasal cavity. He did not utter a sound or offer the slightest resistance. During the whole time, also, I had a perfect view of the field of operation—much better than I could have had if compelled to follow the old plan of administering chloroform.

#### THE SUPPOSED CURATIVE EFFECT OF OPERATIONS, *PER SE*.

BY PROF. J. WILLIAM WHITE, PHILADELPHIA.

Under this title, Prof. J. William White, of Philadelphia, contributes a paper to the *Annals of Surgery* for August, 1891, which, not only from its subject, but from the great number of authorities quoted, and from the peculiarly rich experience of the writer, makes an article of unusual interest and importance to both surgeon and physician. The author's attention was first directed to this subject by reason of his experience with the operation of trephining for so-called traumatic epilepsy.

During the past five years, with Dr. D. Hayes Agnew, he has trephined in fifteen cases of supposed traumatic epilepsy. All but one recovered from the operation. The patient, who perished, was an imbecile and a confirmed drunkard as well as an epileptic. Death occurred from suppression of urine, probably secondary to etherization.

In one case a bullet was found embedded in the

brain substance; in another an irregular portion of the internal table was dissected out from beneath the dura mater, to which it was attached by cicatricial adhesions. In another there were projecting spicules of bone on the internal surface of the button removed and the adjacent portions of the skull. In two marked sclerosis and thickening of the cranium were observed about the field of operation. In the remaining cases nothing abnormal was seen. Although this was the case, they were, without exception, markedly improved by trephining; in two instances, even to the point of apparent cure, no return of the symptoms having been observed for eighteen months, and for two years after the operation. In the other seven the results were strikingly favorable, convulsions disappearing for weeks or months, although previously of more than daily occurrence.

The author has, in so far as this is possible, classified the cases in which operation *per se* seemed to be the main factor in bringing about a cure. These cases are divided into three groups, in accordance with the anatomical seat of the symptoms or of the supposed disease. This brings them under the following heads:

1. Operations for the relief of nervous phenomena, as epilepsy, insanity, paralysis, etc.
2. Operations for abdominal and pelvic disorders, as peritonitis, tumors, etc.
3. Miscellaneous operations.

This classification is further carried out by grouping together (a) those cases in which nothing whatever was found explanatory of the symptoms; (b) those in which some departure from normal conditions were observed, but was so slight as to be apparently inadequate to explain the symptoms; (c) those cases in which an apparently grave and irremediable condition was disclosed by an exploratory operation, but notably improved or altogether disappeared after mere inspection or handling, no further surgical interference having been thought justifiable.

Under the heading of "Operations for the Relief of Nervous Phenomena," Dr. White has tabulated, including his own service, 154 cases. Many of them are given in detail, and coming, as they do, from recognized authorities, are of exceeding great interest.

In fifty-six cases of trephining for epilepsy, nothing abnormal was found to account for the



symptoms. Nineteen cases were reported in six months or less after operation; eleven cases were reported from six to twelve months after operation; six cases were reported from one to two years after operation; one was reported eight years after the operation.

Twenty-five of these cases were reported as cured; eighteen as improved; in three cases it was mentioned that a relapse occurred later.

In thirty cases of ligation of blood vessels for epilepsy, fourteen were reported as cured; fifteen as improved; one died seven days after operation. In the fatal case the right common carotid artery was tied. No fit occurred after the operation.

In ten cases of castration for epilepsy, all were reported as cured. One case was reported four months after operation; four cases were reported more than two years after operation; in five the time when reported is not mentioned.

In nine cases of tracheotomy for epilepsy, two were reported as cured; six as improved; one as much improved, though death in this case followed in two months after operation.

In twenty-four cases of removal of the superior cervical ganglia of the sympathetic nerve, six remained well at the end of three years; ten were improved; five remained unimproved; two died soon after the operation, but not from its direct effect.

In six cases of incision of the scalp for epilepsy nothing was found to account for the symptoms. Three of these cases were reported as cured at the end of three months or less; one was reported as cured at the end of one year; two were reported as cured at the end of two years; two other cases, almost similar, were reported as cured.

Twelve cases of epilepsy are reported as cured by such operations as stretching of the sciatic nerve, excision of the musculo-cutaneous nerve, cauterization of the larynx, circumcision, application of a seton to the back of the neck, tenotomy of the external recti-muscles, burning of the scalp, puncture of the heart, etc.

Thirteen cases of spontaneous or accidental cures of epilepsy are also reported, at a time varying from two months to five years after the traumatism, which was a fall, a burn, a wound, an amputation for intercurrent injury or disease, etc.

Passing from the cerebral to the spinal region, Dr. White cites an illustrative case of his own. A man, æt. 55, was attacked on December 25th, 1887, with severe pains in his arms and shoulders. A few days later, there was weakness of the thighs, spreading rapidly down the legs to the feet, and upward on the body to the nipple line. In eight days there was absolute paralysis of the parts involved, including both sphincters, while at the same time the paralyzed parts became the seat of profound anæsthesia. Girdle pains developed; bed sores made their appearance; percussion of the spine over the third and fourth vertebræ became painful. The reflexes were exaggerated, and light blows on the head in the direction of the spinal axis gave rise to frightful exacerbations of the girdle pains. In spite of every remedial measure, these symptoms increased in severity for ten months. An exploratory operation was then undertaken. Dr. White removed the spines and laminæ of the first five dorsal vertebræ, opened the slightly thickened dura, separated some firm adhesions to the subjacent pia mater, explored the cord, and, having failed to discover any serious pathological changes, closed the wounds in the dura and soft parts.

The girdle pains had entirely disappeared by the following day; sensation began to return in the feet the day after—voluntary motion in the toes after the eighth day; and so one symptom after another disappeared, until the patient completely recovered, and is now earning his living by manual labor.

In the list of abdominal and pelvic disorders apparently cured by operation *per se*, a number of extraordinary cases are cited. The experience of Tait, who has more than once drawn attention to the astonishing disappearance of tumors, often of large size, after a mere exploratory incision, and the corroborative testimony of Von Mosetig, are cited at length. Koenig's analysis of 131 cases of tubercular peritonitis treated by abdominal incision is carefully discussed.

In response to letters of inquiry upon the subject, Dr. White received many communications from prominent operators, the great majority of them containing notes of cases not previously published.

Among the signers of these letters are to be

found the names of Goodell, Hirst, Battey, Roswell Park, Lusk, Cheever, Charles T. Parkes, Cabot, Hunter, McGuire, Nancrede, Weir, Stimson, and many others of equal note.

Under the heading of "Miscellaneous Operations," the author has given several of very diverse character.

First, are quoted cases of osteo-malacia, cured, after weeks or months of confinement to bed, by either oophorectomy or Cæsarean section.

Passing to another subject, the question of graduated tenotomy of the eye muscles for the relief of severe nervous symptoms is carefully discussed. The author freely acknowledges the value of tenotomies, both complete and graduated, in the restoration of equilibrium in badly balanced ocular muscles; but he is none the less convinced that in numbers of instances of reported cures of chronic chorea, petit mal, and even delusional insanity, the effect of the operation *per se* is in large measure the potent cause of the supposed cure. This belief is founded, not alone on theory, but upon the fact that in certain cases of reflex nervous troubles a cessation of the symptoms has followed the tenotomy, although this has not produced perfect equilibrium. Again, the relapses which may take place after a perfectly successful series of tenotomies would indicate that the nervous phenomena attributed to the insufficiency, for the relief of which the operations were made, were not correctly so attributed, and that the temporary relief must be ascribed to some cause other than the restoration of an imperfect balance of the external ocular muscles.

In seeking for a reasonable explanation of the phenomena observed in the above cases, the author has formulated the conditions which are common in nearly all of them:

1. Anæsthesia.
2. Psychical influence, or so-called mental impression.
3. Relief of tension.
4. Reflex action, or the "reaction of traumatism."

These influences were operative in the majority of cases, although not one of them, except the last, applies to the whole list.

With the idea that it was conceivable that a disease of the nerve centres, not reached by

ordinary drugs, might be affected by agents of such volatility and diffusibility as ether and chloroform, the author instituted a series of observations upon a number of epileptics in various stages of the disease. All other treatment was withdrawn; ether was given to the production of full anæsthesia at intervals of from forty-eight to seventy-two hours. The results were either entirely negative, or, in consequence of the withdrawal of their bromides, the patients grew worse.

Since in the great majority of cases upon which Dr. White bases his paper there were either undoubted symptoms such as are habitually associated with organic disease, or there was demonstrable and unmistakable evidence of such disease, it is necessary to believe, in considering the psychical influence of operation, that powerful impressions acting upon the emotional or intellectual nature may affect the organic processes of secretion, nutrition, etc., and may arrest pathological changes and bring about reparative or recuperative action. Cases are cited in which such influences are clearly set forth.

The author holds that the normal equilibrium which we witness between the cerebro-spinal and the sympathetic systems, as respects their influence upon the blood-vessel, is obviously more or less interfered with when the brain transmits a more than wonted impulse, allowing the unrestrained action or paralyzing the influence of the sympathetic vaso-motor nerve. In this relation the author narrates some remarkable cases of hypnotism, and quotes some striking examples of the effect of the central nervous system upon the body.

Belief is expressed that in many of the cases described there can be little doubt that relief of tension is an important factor in amelioration or cure. If it is assumed that preternatural tension exists in the cranial cavity, this would be relieved to an extent by trephining, and there would be but few exceptions to the rule that in each case something was done which lessened tension in the cavity or organ of the body. A diminution of the tension would manifestly alter the blood supply to any important organ in the body, and with it the nutritive processes, local and general. Beyond this nothing definite can be said, except as it applies to cases of ascites, in

which, as in cases of hydrarthrosis, one tapping may prove permanently curative, because the original source of irritation and hypersecretion has already disappeared.

Under the head of "Reflex Action," the author includes the "reaction of traumatism," as well as the effects of revulsion and counter-irritation.

Verneuil has long since shown that very slight traumatism sometimes excites in the entire economy a general perturbation, and sometimes, by selection of the weak point, sudden aggravation of lesions that are only slight or have slumbered. This same excitement, usually prejudicial, may occasionally be curative. In the case of spinal surgery above detailed, Dr. White believes that the local shock of the operation was promptly followed by a corresponding reaction, in which the vitality of the tissues was raised sufficiently high to determine a return to the normal state. In this relation the reciprocal influence of one portion of the body on another is briefly discussed.

In considering abdominal tumors, attention is called to the possibility of the spontaneous disappearance of such tumors, the relation of this disappearance to the operation being coincidental; cases are cited in point. As to the cure or amelioration of growths thought to be malignant by merely exploratory operation, a long search through the literature of the subject has met with but little success.

The cure of tuberculosis of the peritoneum, as the result of exploratory incision, is explained on the ground that the removal of ascitic fluid allows the peritoneal surfaces to fall together and to acquire adhesions. The tubercles are then shut in between the coils of intestine, the omentum, and the abdominal wall. They are thus surrounded by tissues in a high degree of activity, which can now throw around them the limiting zone of young cells and eventually fibrous tissue, which, if the tuberculous process is not too far advanced, may effectually resist it and may cause it to retrograde, the process being analogous to that which we see imperfectly going on around a cancerous growth.

As a result of a study of the subject, the author believes the following conditions are warranted:

1. There are large numbers of cases of differ-

ent grades of severity and varying character which seem to be benefited by operation alone; some of them by almost any operation.

2. These cases include chiefly epilepsy, certain abdominal tumors, and peritoneal effusions and tubercle, though the improvement in the latter is, perhaps, to be explained on general principles.

3. Of the possible factors which, by reason of their constancy, must be considered, anæsthesia seems least likely to have been effective. The other three, viz., psychical influence, relief of tension, and reflex action, may enter in varying degrees into the therapeutics of these cases; and taken together, serve to render the occurrence of occasional cures less mysterious.

4. The theory of accident or coincidence scarcely explains the facts satisfactorily.—*Abstract by Dr. George D. Morton.*

#### SYMPTOMATIC CURE OF A UTERINE FIBROID BY ELECTRICITY PREVIOUS TO ITS REMOVAL BY THE KNIFE.

BY JAMES F. W. ROSS, M.D., C.M.,

Lecturer on Abdominal Surgery, University of Toronto, etc.

As it is well known and so widely heralded that about 80 per cent. of the cases of fibroid tumors treated by electricity are "symptomatic cures," I feel called upon to relate the following case. Before doing so I may premise by a statement that may not appear modest though true. I have been fortunately thrown much in contact with men, both at home and abroad, who have done much abdominal surgery. I have had hospital and dispensary clinics under my care for some time. I have thus examined many hundreds of women with and without an anæsthetic. If tumor is present in the pelvis, I always examine under an anæsthetic. Time and time again I have proved my diagnosis to be correct by abdominal section, and time and time again I have failed to make a correct diagnosis after exhausting the clues from carefully taken histories and the senses of sight and touch. But in the present case there could be no doubt. I had felt so many fibroid tumors that I surely knew a fibroid when I felt it. Any amateur could have diagnosed this case. The patient was only seventeen, pale and anæmic.



She had been anæmic for over a year. A frequent desire to urinate had been noticed for some months. Menstruation always regular, but for about a year the flow has been increased, lasting at times eleven days. When unwell she complains of pain in lower abdomen. No particular pain at other times in lower abdomen, but suffers from neuralgic pains in the limbs and headaches. A leucorrhœal discharge combined with the menorrhagia drew her attention to her condition and she consulted her family physician, who asked me to see her with him. On examination without chloroform I felt a mass in the pelvis, and immediately asked Dr. Noble to put her under chloroform. I then felt a hard, firm, irregular mass attached to and surrounding the uterus. The greater tumor was high upon the left side, springing from the fundus. From the denseness of the mass and its nodular feeling, together with its uterine attachment moving, as it did, with the uterus, there could be no doubt in the mind of any one with an experienced finger, "that could tell a fibroid when it felt one," that this was a case of multinodular fibroid of the fundus uteri pure and simple. This was very clear. And then we had the menorrhagia to back up the diagnosis.

The case was so clear that I used it for clinical purposes before several classes of students. Many of them examined the patient, so that I could point out the features of fibroid tumor as found by the examining finger. The stony hardness was dwelt upon. The patient was then sent out of the hospital and told to come for electrical treatment. Her mother was told that the tumor was only a fibroid, usually an innocent tumor that might remain quiescent for years and that would disappear after the change of life. She was also told that it might grow or bleed, and that under such circumstances electricity would check both in, some say 95 per cent., others say 80 per cent. of cases. This was very satisfactory to the anxious parent, the fretting patient, and the interested physician. Her case would probably be one of the fortunate ones; she would thus escape the horrid knife of the abdominal surgeon and add one more triumph to the marvellous powers of the battery.

Time after time she wended her way to my office for treatment. The platinum electrode

was passed into the uterine cavity, the abdominal electrode placed *in situ* and the current from my 60-cell battery turned on to 150 milliamperes for ten minutes at each application. She suffered much pain and began to dread the visits very much. Menstruation was as profuse as ever and her pains were worse, but of course these peculiarities were due to the want of skill and knowledge and imperfect battery and fittings of the operator. There could be no doubt about the cause of the failure. If some one who had wasted a lifetime in Paris had applied the electricity, the results would have been different. Then the patient remained away. I went for a holiday. She was certainly no worse on my return than she had been for a year, so that the disease could be recorded as "stayed" in its progress. I could even imagine that the hard, firm tumor had diminished in size; but the restless spirit of abdominal surgery was too much for me, and I told her that I thought it better to take no chances and have her ovaries and tubes removed first, and all the electricity she wished for afterwards. This conviction was forced upon me by three facts: 1. Because a few days before I was forced to complete an oophorectomy for fibroid by doing a hysterectomy (fortunately with a favorable termination), because the tumor had already grown too large to permit of the performance of the tumor operation. 2. Because I had been unable to remove ovaries and tubes or do a hysterectomy in another case owing to the adhesions. 3. Because I had just opened an abdomen to remove either a fibroid ovary or fibroid with a long pedicle and found the belly full of blood and a ruptured ectopic gestation with no definite symptoms to point to its presence, and the woman walking back and forward to my clinic while in this condition.

Gynæcology has indeed been blessed by the "restless spirit of abdominal surgery," notwithstanding the efforts of the so-called electricians to lower it to the level of the indefinite and enshrouded gynæcology of the past. The surgical pendulum undoubtedly swung too far in the hands of many who wanted more balance and more experience, but now "he who runs may read." It is "may" read, not "will" read.

Now to proceed. I advised removal of ovaries and tubes from the patient. Many had

seen her, many had examined her, not that I had any doubt as to the nature of the disease, but because the girl was so young, only seventeen. All were agreed that it was a very plain and very interesting case of multinodular fibroid, that treatment by electricity was the correct treatment. Though I thought the patient better, she was too free from hysteria and too cute to have any such conviction forced upon her. Imagination is a valuable consort for all of us. But this girl, like a well-known character of Dickens, had none. Arrangements were made for the little operation. I had two abdominal operations and was to assist my friend, Dr. Temple, with another that morning. My case being clean and simple was to be done first. It could of course be completed in a few minutes. On opening the abdomen I felt the tumor and looked at it. It was no doubt fibroid. The right ovary was drawn up and found to be normal in size. The tube was clubbed and filled with what was supposed to be serum. In hunting for the other ovary, I concluded that the fibroid was already so buried in adhesions that the ovary could not be reached. On peeling away to get at the ovary, I found that the whole mass had a tendency to come out, and thought that it was probably a myoma developing from the broad ligament. I had removed two or three such tumors. It peeled out farther, until at last a pedicle could be made out near the uterus, and the mass was tied and cut off. As soon as I cut it away, a small opening near its centre made its identification as an enormously-thickened left Fallopian tube, clear. The ovary was closely adherent to it and filled with grumous material, and completely degenerated. The other tube, when opened, contained pus. Thus faded away our multinodular fibroid, and the patient will live to enjoy years of good health. She is now convalescing.

A good moral may be drawn from such a case. Open the abdomen and make positive the diagnosis of fibroid tumor, and then cause its disappearance or so-called symptomatic cure by the use of electricity, and you can then flaunt aloft untiringly the curative virtues of electricity before a skeptical public with not only a hope, but a certainty of carrying conviction into the camp of the unbelievers.

I am still an unbeliever.

## MEETING OF THE BRITISH MEDICAL ASSOCIATION.

COMMUNICATED BY T. H. HALSTED, M.D.

I had the good fortune to be present at the fifty-ninth annual meeting of the British Medical Association, which met last week at Bournemouth, on the south coast of England, and thought a letter might not be unacceptable. That an immense amount of work is transacted at these annual meetings goes without saying; but the British doctor is not a man of all work and no play, but judiciously combines the two to obtain the greatest amount of profit with a great deal of pleasure. The meeting lasted five days, and a large number of papers were read and discussed, and an equally good number of garden parties, excursions, and banquets given.

Prof. John Chiene, of Edinburgh, addressed the general meeting on surgery, his subject relating to rest as a therapeutic agent in surgical practice. As his hero he took John Hilton, from whom he had learned to value so greatly rest as one of the chiefest aids in surgical treatment; not only bodily, but mental rest. The latter, he thinks, is too much overlooked by the surgeon who prescribes rest of body, without remembering the great influence the mind exercises and the necessity for its healthy employment. Pain in the healing of a healthy wound should be unknown, and when present is a cause of unrest and only too often attributable to the carelessness of the surgeon in his manipulations. Nothing tends so quickly to estrange the confidence of the patient as the occurrence of pain in dressing or examining wounds, and pain as a factor in causing unrest should be avoided. All causes of irritation should be removed. While he believed in Listerism, yet it was true that as "Lister's arguments grew stronger, his solutions grew weaker." He believes it the exception for a wound to become infected by the falling of micro-organisms from the air on the wound surface, but that the usual way of infection is by direct contact of dirty hands, instruments, etc. Make the hands, instruments, and skin over the part to be incised antiseptic, and there need be little fear of infected wound. Though most often employing boiled water for irrigation, he frequently uses antiseptic solutions, but always washes

away the antiseptic fluid with boiled water, lest the antiseptic remaining act as an irritant and so cause unrest. Sponges should never be used more than once. Better still, not at all. Massage employed intelligently is a useful aid in the treatment of inflamed joints, fractures, etc. It is better in fracture of the long bones to begin gentle massage after the fifth day, always taking care not to interfere with the union of the bony surfaces, the idea being to obtain as early a use of the limb as possible and not simply looking to the early union of the bone, forgetful of the length of time often intervening between the healed fracture and the use of the atrophied muscles. Chloroform, in general anaesthesia, he prefers in almost all cases. He spoke of the many-tailed bandage as being the kind preferred by him, it giving better support and its management being better regulated than the roller. Space alone prevents referring more to the many excellent things contained in Prof. Chiene's address.

There are few men in the world who have propounded so many new things in surgery, and few men who have met with the opposition, and overcome it, that has befallen Mr. Lawson Tait. A born fighter, he looks a typical or rather a very pronounced John Bull. I confess to having had a great desire to see and hear the Birmingham image-breaker, and consider myself fortunate in having heard him read a paper which may become historic in the literature of Hernia. His paper was "Abdominal Section in the Treatment of Hernia." He began by repeating his statement of last year relative to the teaching of anatomy in the medical schools, and protests that medical students are compelled to learn too minutely certain parts of anatomy, and that this really defeats the aim in view, because the knowledge, in hernia, for instance, tends to frighten men from undertaking operations early enough, fearing a lack of requisite skill, when in reality no such fear should exist. I agreed with the eminent gynaecologist as my thoughts immediately reverted to the gentleman who examined me, with a painful minuteness, on the layers of femoral and inguinal hernia, at the Council examination some years ago. The forms of hernia which Mr. Tait includes in his method of treatment by abdominal section are irreduc-

ble and strangulated hernias. Making an abdominal section and inserting the finger or fingers into the peritoneal cavity by traction on the gut, the hernia would be much more readily relieved than by means of the old operation—extra-abdominal—over the tumor and pressing or pushing the gut into the abdominal cavity. After the hernia is relieved, a radical cure is made by sewing up the ring, in inguinal, and tying from within the peritoneal cavity, using silk worm gut for this purpose. If necessary, the tendinous ring could be cut. Perfect union afterwards was, in his experience, the rule. In cases of strangulated hernia, where inflammatory adhesions had taken place so that it would be hazardous to attempt too much traction on the gut, or where there might be reason to fear the exudation of a faecal fluid from the bowel, and which might be drawn into the abdomen, an incision over the hernia, as in the operation at present in vogue, could be performed in addition to the abdominal section, and without prejudicing the recovery of the patient. The operation is indicated especially in old and irreducible ruptures, and in the very early stages of strangulated hernia. The advantages he claimed over the extra-abdominal operation are (1) less difficulty in reducing the hernia, pulling of the gut being preferable to pushing; (2) more simplicity; (3) the greater certainty of obtaining a radical cure. He has done the operation mostly or entirely in females, and usually in old or irreducible hernias, radical cure being the aim in view. I have not gone into the details of his operation, as doubtless the paper will be printed in most of the journals. Mr. Tait did not claim priority of idea, as the operation has been done a number of times by other men, though in each case as an exceptional procedure. Prof. Maunsell, of New Zealand, who took part in the discussion following, wrote a paper on the same subject nearly five years ago, advocating the same operation as Mr. Tait with a slight difference in the method of tying the sutures in sewing up the ring, he passing the needle from without in rather a complicated manner. Mr. C. B. Keetley, Drs. Bennett May, Lloyd, O'Callaghan, and others, took part in the debate and objected to the operation on the ground of making two wounds, which might afterwards become the site of hernias; the having two



tendinous unions to deal with afterwards instead of one—that of the ring and of the linea alba; also on the ground of impracticability in pulling on a gut bound down by adhesions in strangulated hernia, and further that a radical cure would not be obtained by Mr. Tait's suturing of the ring. These objections Mr. Tait met by saying (1) that he never made an abdominal section through the linea alba, because it was a tendinous structure; (2) that he would not draw on an adherent intestine in strangulated hernia if much adhesion existed, but would make a second incision over the tumor, as in the ordinary operation; and (3) that radical cure was obtained, as he had many cases operated on in the past in proof of his contention. In the section on medicine, a very interesting discussion took place on "The Effects of Alcohol"; but as this letter has become rather long, I will not trespass further on your space.

LONDON, Eng., Aug. 3, 1891.

## AN ADDRESS

DELIVERED AT THE OPENING OF

## THE SECTION FOR DISEASES OF CHILDREN,

*At the Annual Meeting of the British Medical Association,  
held in Bournemouth, July, 1891,*

By JAMES F. GOODHART, M.D., F.R.C.P.,  
Physician to Guy's Hospital.

### THE CHILD IS FATHER TO THE MAN.

It has often been said, gentlemen, and said truly, that great events may issue from small beginnings, and in some sense this is so here, for the thing that in the main determined the subject of this address to you was the one word "pædiatrics." I hate the word as being the embodiment and the product of specialism, and, meeting here to-day, as we do, as specialists, it is the aim and object of the few words that I shall address to you to insist that we are not so.

These may be called the days of local disease. With our many enthusiastic, and patient, scientific explorers in the region of disease, thirsting, as they do, for something tangible, something that can be put to the proof by experiment, the constitution, as a factor, has received some hard blows, and the idea of a predisposition would seem, in the minds of many, to be antiquated and puerile. Who can say otherwise, when the whole of the pathology of the present day is absolutely eaten up by bacilli of some shape or another? This needs no reminder when it is within the knowledge of all that not tuberculous disease only, but abscesses of all kinds, syphilis, rheumatism, some forms of heart disease, blood diseases, such as purpura, atrophic changes, such as acute yellow atrophy, chronic hypertrophic

skin disease, such as leprosy, and some forms of new growth, cancerous tumors of all kinds, pneumonia, acute bronchitis, tetanus, are some of the many maladies that have been attributed either to microbic growth or to microbic influence. It is really no exaggeration to say that no single disease has been discussed or re-discussed of recent years in which bacilli in some form or other have not been imported into the question. And, although I have nothing but admiration for the far-reaching value of the work that has been done in this direction, and have no wish to question the advances that will certainly be made along the same lines in the future, I do wish that the arts of prospecting and assay were more liberally followed and cultivated, instead of, as now, everything being considered as a nugget because it has been found in a claim. The lengths to which we now go is often ridiculous.

The child is father to the man. I never think of child life as special. Its diseases are as the early eruption upon the skin is to the mature affection, and they must be studied, not only as they are seen, but in the light of what they will become; they are an embryonic stage; but they *are* the mature disease modified only by the physiological conditions and activities existing at that time. Disease as it manifests itself at one time and at the other does but complete the picture of the one disease, and some are children in some respects to old age, while others, though being yet young, have known no childhood.

Now it has long been a matter of interesting question to me how certain adult diseases appear in childhood, for in some form or other I assume that they do so appear. Take the most crucial case possible first, viz., gout. Practically we do not recognise gout as one of the diseases of childhood, although, as I have said, the child occasionally, even in this respect, foregoes the pleasurable exemptions of his age. The explanation that is considered sufficient is that some diseases attach themselves to particular times of life, and to those only, and that a certain stage of existence is required to produce the conditions requisite for the due causation of the disease. And this is obviously true of particular symptoms. But particular symptoms do not constitute the disease, and gout being a remarkably hereditary disease there is in all probability some representative of it in childhood. If it be studied from this point of view, I am sure you do not go far without finding that this is so. In the first place, I hold that gout in children is not to be discriminated from acute rheumatism; it attacks the larger joints; is attended with free sweating; it certainly attacks the heart, and is also relieved by the salicylates; though whether it attacks the heart *so* frequently, and is relieved *so* certainly by the salicylates as in acute rheumatism, I am not prepared to say. It may be said, of course, that this is all acute rheumatism. So be it. But if so, I think that in summing up what gout is we must say that, under some circumstances or at one period of its life, gout is acute rheumatism—a very important fact in the history of the two diseases if it be true. At any rate, of this I am certain, that the records of hospital life show it to be by no means uncommon that a patient comes in in his early years with what is looked upon as acute rheumatism, and he reappears in later life with distinct evidences of gout, and

gouty parents beget rheumatic children, and *vice versa*.

But there is another bit of the life-history of gout which, I fancy, only comes out clearly by the study of child life as it bears upon the diseases of adults. I allude to the excretion of uric acid. I suppose there is no one here who has not seen time after time the man or woman in the declining third of life a martyr to gout who has been forbidden to eat butcher's meat, and often meat of any kind, after the most rigid fashion. There was a discussion not long ago at one of the medical societies in London where this question came up; and I was intensely interested to find that Sir Alfred Garrod made some such remark as that he had not observed that the meat eaters were those that were most addicted to passing uric acid. Now surely you must all agree with me that you have long known from the observation of this very point in childhood that it is certainly not the meat-eating children who pass uric acid; but it is the largely farinaceous feeders. And if you want to control this defect of assimilation, you will do so very little by the exclusion of meat from the diet; you will improve matters very much by curtailing the starchy material. And this is strongly confirmed by what I think used to be a matter of common teaching when I was a student, that stone was so prevalent in Norfolk because of the largely farinaceous diet that the agricultural laborer lives upon. The enormous frequency of stone in India amongst the natives is, I imagine, still more strongly to the point. I do not deny, of course, that the prescribed restriction of diet often does much good in plethoric subjects advanced in years, but I do believe that the good comes by the general reduction of quantity that is brought about, and not by the exclusion of meat as meat. Indeed, I believe that the end is accomplished by directions of this kind with a quite disproportionate amount of discomfort, and often of real harm from the sudden alteration in the habits of a life that are quite unnecessary. We are all so inclined to do what our fathers have told us to—I think this applies perhaps to medicine only of all the other walks of life—because they have told us. A good common sense dietary for such as require it can never be a matter of printed tables; it ought always to be a matter of personal consideration, the subject with his adviser, the one doing his best to unfold the special features of his individual kiln, the other trying to apply his physiological knowledge to the special needs of the case as they are unfolded to him. To order every one that comes to you to leave off wine of all sorts and take a stipulated quantity of whiskey; to abstain from all butcher's meat; from bread, butter, sugar, etc., is advice that, in the greater number of instances, has no physiological knowledge at its bottom—though far be it from me to suggest that the prescriber does not think so—except that he does not think at all about it, and if the public thought at all about it, is seldom worth the sum that is usually paid for it.

So much for the uric acid diathesis in childhood, as far as it elucidates the adult disease. Let me say before quitting it, although not quite relevant to my special point, that renal colic is far commoner in children than is usually supposed, but it passes for stomach ache pure and simple, and goes unrecognised.

I should like to allude, while addressing myself

to the urinary excretion, to say that some children habitually pass a urine of abnormal concentration, and in such albumen may occasionally appear, and it has always seemed to me worth consideration whether such a condition may not foreshadow a risk of the supervention of granular kidney.

There are several minor conditions that have their interest, and must have their meaning as regards the life-history of the adult organism that I have not time to linger over even if I were in a position to say what the meaning is. Such are the tendency to boils that some children show, the curious contrast that erysipelas gives at one time of life and at the other. In the one so frequent and withal so often transitory; in the other, so uncommon, so prone to assume a migratory form of indefinite duration, and almost invariable in its fatality. Another is the epistaxis of childhood; another that curious condition of the pupil in children where it is widely dilated and temporarily insensitive to even the strongest light, but the light removed immediately the iris acts. I have seen this many times in the course of ophthalmoscopic examinations, and have once or twice, before I knew better, been near committing myself to the suggestion of cerebral disease in consequence.

Intussusception is another ailment allied to this in the sense that it is a disorder of involuntary muscle, which I cannot think is the mere accident it is often supposed to be. I suspect that it, equally with the stomach-ache, which occurs in some children as a sort of resentment at the intrusion of food, and which subsides when the stomach has found out, so to speak, that it is no use to grumble, has its meanings, and when I see such things my mind carries me into the child's future and I find myself peering longingly into that mist of years which would seem to be veiled only by to-morrow.

Again, what does that common condition, the frequent passage of pale fæces, mean? A most important matter clothed in the garb of the veriest commonplace it is, for there are few greater sources of anxiety to the fond—shall we say, too fond?—mother; and inasmuch as it generally leads to active physicking, it cannot be held to be uninteresting to the child. Now I must at once admit that a symptom of this kind may mean anything—a disproportionate amount of milk food, for instance—and unquestionably, in some cases, such as cholera infantum, it is due to suppression of bile. I do not allude to such, but to a large class of cases—you all know them well—where the child habitually passes these colorless evacuations, and is brought to the doctor for his liver. And, by-the-by, in passing, it occurs to me that they are not taken to the liver doctor. No, the liver doctor is only the attendant of adult livers; there are as yet no specialists for nine-year-old viscera. Children have to do without luxuries of that kind, except in the case of that enlightened lady who, forsaking the guide of her youth, the great man at sucklings, fell into the hands of some one else, because, with the usual irony of fate, he was not great at anything. But these children are brought, case after case, to be treated for their livers, and, what is more, the request is granted; and, sitting at the seat of custom, they take their mercury and chalk, eucalymin, soda, sulphur, and so on—the treatment, in fact, of riper years, save only the blue pill. But, unless I am very much mistaken, it is bad treat-



ment to go for the liver in these cases: first, because it does very little good; and, secondly, because it habituates the child to the use of medicine, and mostly of aperient medicine, and thus is introduced a risk into its life of acquiring a faulty habit of the abdominal viscera, or a constitution, to keep to the term I have made use of, and about acquired constitutions of this kind I shall have a word or two to say directly.

But if the pallor, the sallowness, the lassitude, the character of the dejecta, do not indicate a sluggish liver, what do they mean? I would like to say that their interest lies in what they foretell for the man and woman of the future, for I think I see in such children, unless wisely treated—or, I may say, managed or guided—the coming dyspeptic, the morbidly sensitive, the depressed, the neuralgic, the phlegm-swallower, the patent medicine machine—in short, the ignoble army of the self-martyred, who think they are liverish and are not; who can tell you every detail of the daily variation of their uncomely functions, but of weightier matters, such as the happiness they get out of life, the happiness they impart to life, their objective relations to the world in which they were born to take a part, they have nothing to say or to think; whose end is destruction, for they suffer many things of many physicians, and in the end are made worse. If this indeed be the ending of the small beginnings I have pictured, who will say that the child-parent is not worth a study?

We are only what the Fates have ordained us to be, through, it may be, the agency of the unconscious goodfellowship of some sinful progenitor; but we are also what our mothers make us, or still worse, or better, what we make ourselves. Yes, there is such a thing as an acquired constitution, and happy would it be for many of us if we could but have recognised it, or even had it been impressed upon our attention by some wise man who knew our tendencies while yet we were in the plastic stage of childhood's years. And from this point of view it has often been a matter of much speculative interest to me—which any of you who know London will well understand—to gaze into a particular shop window in Regent Street where chickens are hatched and nurtured by a patent incubator, in wonder whether those chickens are really as good chickens as if they had been sat upon by their mother.

I hope the proprietor of that incubator is studying the subject from my point of view, as well as from that more properly his own, for it is a vital matter for the fowls of the future. Nor is it so trivial as it might seem to be to ask the question as regards ourselves whether infants taken from their natural aliment, and from the hundred and one sensations which no doubt crowd upon them as they nestle in their mother's arms, are really as fit for the struggle for existence as those who are bred in the good old ways. I am not of course talking of any mere superficial deterioration. That windowful of chickens hatched by the incubator would never have been exhibited if the fancier were able to detect demerits; and I am able to certify after repeated visits that no Gallinacæ could strut more instinct with the pride of race; but we deal with strains of far subtler penetration, with quips and cranks of action for which there is no gauge, but of which the sum total makes all the difference

between the happiness or unhappiness, the waste or the success, of a life.

I must not trench upon the province of my friend, Dr. Ashby, and possibly this line may be considered somewhat out of the range of practical medicine; but I fancy that at the present day our artificial foods are so at every one's door, and are so deftly concocted with

A little bit of this and a little bit of that,  
A particle of soda and a little bit of fat,\*

that the coming generation is in danger of forgetting that, after all, we cannot beat Nature, and that in every unthoughtful and ill-considered rejection of the mother's supply there is, at any rate, just the risk that foreign reactions may be set going which in years to come may so alter the constitution of our being as to interfere with the results which we should have expected, and which it is our special function to anticipate in their course and to deal with in their maturation. And the dislike of milk, which is really quite a common thing at the present day, is an acquired constitution of this kind and of this origin, and an exceedingly bad one it is if the subject of it happens to get acutely ill. I know nothing more depressing to me on seeing a patient acutely ill with grave disease than to be told he cannot take milk; it seems at first as if there were nothing else to keep him going upon. And although it is not quite so bad as this, it is a very large slice out of a sick man's dietary to be obliged to forego the use of milk. I believe that this inability to take milk when well is almost absolutely due to a faulty education of the particular stomach in childhood and infancy, and that it ought never to be allowed to take place.—*Abstract Brit. Med. Jour.*

## AN ADDRESS

DELIVERED AT THE OPENING OF

### THE SECTION OF PATHOLOGY,

*At the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891.*

By W. HOWSHIP DICKINSON, M.D.,

Senior Physician, and Lecturer on Medicine, St. George's Hospital.

### ON THE USES AND PROSPECTS OF PATHOLOGY.

The science before us, that of pathology, must be regarded in its widest sense, not as concerning only the results of disease, but also its processes. In times not very remote, little was known of pathology but rough morbid anatomy, and very little of that. Large morbid anatomy has advanced so much, especially during the last hundred years, that it may be believed that there are few changes obvious to the naked eye which have escaped notice. Rough morbid anatomy is the groundwork of medicine, and must ever be essential to the physician as presenting results in a compendious form.

Something, what seems to us much, of minute morbid anatomy has been displayed with regard to most organs and tissues. Of the more substantial organs, we probably know something which, though rough, cannot be altogether wrong. But what shall

\*Adapted to the occasion from a political speech—I think of Sir William Harcourt—of a year or two ago.



we say about the nervous system? We may say that within the last half century the minute morbid anatomy of the nervous system has been begun, and some lines of light, however dim and narrow, projected into places dark since the creation. Diseases once thought to be functional or without organic change have been provided, some, like essential paralysis, chorea, and diabetes mellitus, with something of morbid anatomy, however incomplete; while others, like tetanus, and the paralysis of Landry, have been suspected, if not convicted, of being connected with poisons which, though less visible, are not less material. The mystery of the nervous system has not yet been solved, but, at any rate, we are upon its traces.

Among pathological processes we may pause for a moment on the results which have been attributed to the excessive and deficient action of oxygen. The chemical school saw in inflammation only excess of oxidation or combustion, which may truly exist, and of which the increase of temperature may be a result; but they took too little account of what may be antecedent to this in tissue and vessel. In diabetes they saw little more than a deficiency of oxidation, which indeed there may be, but which must be secondary to changes in organic structure which as yet we have seen but imperfectly.

With regard to gout and uric acid as products of suboxidation, the chemists got to results which seem to embrace the truth less incompletely, though even then there is probably something to learn of organic lesion or disturbance outside the domain of pure chemistry. We know something of hepatic disturbance in connection with uric acid. What more will be added, and to what organs and tissues it will relate, is work for the future.

As a definite result of suboxidation, I may point to what has been advanced with regard to hæmoglobinuria. This is closely allied to the symmetrical gangrene of Raynaud, and is associated with localised lividity of the skin. Professor Murri has found reason to believe that this lividity is due to the cutting off of the arterial current and the oxygen which belongs to it by vascular spasm (one of the recognised results of malaria), and that the destruction of corpuscles is due to the carbonic acid in the parts from which the oxygen is then shut off. If they be so, we have a result of suboxidation which deserves a prominent place in chemical pathology.

A disease which presents itself as of chemical origin, if one due almost certainly to a specific deficiency in the constituents of the food may be so regarded, is scurvy—one of which the chemical secret has apparently been so readily exposed that we ought to be almost within grasp of the chemical antidote. The conditions which give rise to sea scurvy are generally known. It is not probably as widely recognised, that scorbutic affections are so common on shore—among infants brought up by hand—that this form of land scurvy is scarcely less important. It is to be attributed to the exclusion of fresh milk by various artificial preparations of it. Not that these preparations are in themselves injurious, but they are insufficient.

Milk in its fresh state, and of good quality, whether from biped or quadruped, is antiscorbutic; preparations or sophistications of it are not so, or not so to a sufficient extent. Scorbutic hæmaturia and scurvy rickets are but too frequent conse-

quences of this substitution. We know the broad result, which is enough for practice, but we do not know the isolated want. What does fresh milk contain which is so essential and so difficult to preserve? We no more know this than what there is in lemon juice to be antiscorbutic, while neither citric acid nor potash are so. The problem is attractive, like a puzzle; some day it will be solved, and then we shall wonder why it was not solved before.

Probably every person who walks a hospital, or lives in a city, receives habitually and abundantly the bacillus of tubercle; some become tuberculous, others do not. The difference must be in the man, not in the microbe. The condition of the soil would seem to be of more practical importance with regard to tuberculosis than the presence of the seed. Why the bacillus sets up tuberculosis in one and not another must be due to the fitness of the tissues for its retention and maintenance, in regard to which fitness we can discern hereditary influence, that of chronic inflammations, and of what we must be content to express as lowered vitality.

With regard to bacilli in general, we find that these, which so recently were the ultimate results of research, are now the basis for further advance. There is no finality in nature or in human curiosity. Outside the micro-organisms is a pathological system which, though we recognise its existence and its importance, we understand but imperfectly. If the present rate of progress is maintained, we must be on the eve of discoveries in the physiology of disease which can scarcely fail to be of transcendent importance. The discoveries of Pasteur, Wooldridge, Hankin, and Sidney Martin, take us beyond the micro-organism into a new field of organic chemistry, beyond the bacterium to its products.

The discoveries of Wooldridge and Hankin with regard to the chemical products of the anthrax bacillus open a vista to new fields of view, while they show much that is old in a new light. The anthrax bacillus has been shown to engender a substance of the nature of an albumose, which is supposed to be fatal to the bacillus itself, while upon the affected animal it has a duplex action; in large doses it produces the symptoms of the disease, in small doses it confers immunity from it. The study of the bacillus has given us antiseptic surgery; the study of its products may lead to we know not what in medicine, whether preventive or curative. Old truths grow and new ones gather round them.

In the fact—if it prove so—that the bacillus is killed by its own products, we might see something hopeful, were it not that these products, if sufficiently active and abundant to do so, are likewise noxious to the host. The evil, bringing its own cure, is the realisation of the old superstition, according to which a viper's bite is cured by its fat, and virtue found in the hair of the dog that bit you.

Before I quit these great subjects, the anatomy and physiology of disease, I must glance at an aspect of them which can never be better presented than to a meeting like this gathered from all parts of the kingdom. I refer to what may be called the geography of pathology, the effects of climatic and other local influences in promoting and preventing morbid processes. The therapeutical effects of climate are beyond our proper scope, but neverthe-

less it is impossible to avoid some inferences which spring directly from its pathological effects. The Father of Medicine wrote a treatise on "Airs, Waters, and Places," but there is still much to be learned. Of local influences, though we know comparatively little, yet we know enough to suggest that of the means under our command of modifying chronic disease change of place is the most important. To treat by change of place is to invoke the great laws of nature, which act without ceasing and upon the whole body, and are the ever-present regulators of all life and growth. To see as much of this as we can, we must look from two points of view; not only at what locality prevents, but what it produces. To know that there is little stone in Ireland and much in Norfolk, little in the western counties, much in the eastern; that while in England it is most frequent in the colder parts, it is so prevalent in India that lithotomy has long been a native accomplishment; to discern the laws which underlie these facts, as we can partially do, cannot fail to throw light on the origin of the disease and help in its preventing.

The frequency and severity of diabetes in some parts of India and Ceylon cannot but suggest the influence of an opposite climate in its ameliorations. I am told that among the meat-eating Parsees of India both diabetes and gout present a frequency which transcends anything of which we have experience in this country. If the climate of India promotes these conditions, what will be the effect upon them of the north of Europe or of America? If scorbutic affections are invited by cold, presumably by way of tissue waste and oxidations, what will be the result of the same agency upon the uric acid diathesis, gout, and the disorders in which oxidation is wanting? It might be better to shudder in the frigid zone than to suffer arthritic tyranny in the temperate.

The infrequency of the granular kidney as originating in subtropical districts has already had its influence in the treatment of the disease. Short of such great changes as between zone and zone, even within the limits of these islands, more may be in our power than has yet been recognised. Between the Scilly Islands and Aberdeen are many varieties of hot and cold and moist and dry, and many differences of water and of altitude. There is much phthisis in Scilly under warmth and moisture. Is this due to race, to intermarriage—as has been thought—or to location? Where within these islands does phthisis least prevail? Where is oxidation so keen that gout is burnt and purged away? Let us know what diseases are promoted and what are prohibited by the *genus loci*; let us take the great forces of external nature into our confidence, and we shall be able to control disease by greater agencies than the druggist can supply.—*Abstract Brit. Med. Jour.*

DR. D. HAYES AGNEW says that he never saw a case of nasal catarrh among the females belonging to the Society of Friends, Dunkards, or Mennonites. His explanation is that their bonnets protect them from this disease.

## Selections.

THE MORTALITY FROM CHLOROFORM NARCOSIS.—The question of the relative safety of ether and chloroform is pretty well settled in the minds of most surgeons: yet as long as it is settled in an exactly opposite way by Americans and Europeans, the matter will continue to be discussed with interest. The prevailing belief is that statistics will show about one death in 25,000 anæsthetizations for ether, and one in 2,500 for chloroform. Dr. Weir, however, from a careful study of the New York Hospital statistics, found that the ratio of deaths from ether was six in 12,000 operations, or one to 2,000, a very much higher rate.

A recent article by Professor Kocher (*Korrespondenzblatt f. Schweizer Aerzte*) sums up very well the views of an experienced surgeon, and shows that in some European clinics, at least, ether is gaining ground. Kocher says: (1) As a rule, no attempt to produce general anæsthesia should be made without close examination and thorough preparation of the patient; (2) it is advisable, and in many cases necessary, before administering an anæsthetic, to arouse the action of the heart by giving alcohol or some other stimulant; (3) the patient should always be laid in the horizontal position; (4) chloroform should never be given in cases in which the patient has not been sufficiently prepared; in tooth extraction, reduction or dislocation, and, indeed, most minor surgical operations, ether should always be substituted for chloroform; (5) in cases of cardiac disease and of disturbance of the heart's action not associated with respiratory disturbances, ether should be given and not chloroform; (6) in patients suffering from diseases of the respiratory organs, associated with hyperæmia of the tracheal and bronchial mucous membrane, ether should be rejected and chloroform administered in its place; (7) in cases of prolonged surgical operation chloroform should be carefully administered at first, the state of anæsthesia being subsequently maintained by the continuous inhalation of small quantities of ether; (8) the inspired air should never be allowed to become saturated with the vapor of chloroform; (9) when, in any case in which the operation is likely to be a long one, the administration of ether is contra-indicated and chloroform must



consequently be used, a previous injection of morphine should be practised in order that anæsthesia may be produced by a smaller quantity of this agent.—*Medical Record*.

THE TOXICOLOGY OF EXALGINE.—A French provincial practitioner records a case of poisoning by an accidental overdose of exalgine which constitutes an important contribution to the toxicology of this rival to antipyrin. He prescribed four powders containing a gramme (about fifteen grains) of antipyrin in each, to be taken at stated intervals. The next day he was urgently summoned to the patient, who was reported to have gone mad. He found the patient suffering from intense vertigo, crying out that he was falling over a precipice, and there was, in addition, extreme dyspnoea and very marked cyanosis. It was elicited, on inquiry, that the chemist's assistant had dispensed four one-gramme packets of exalgine in mistake for antipyrin, so that the patient had two doses of a gramme each of exalgine on two consecutive days. The same symptoms were produced on both occasions, but the interesting feature is the fact that they passed off in a few hours without leaving any permanent ill-effects behind, although the drug, on being tested, proved to be of usual strength and quality. This tends to show that the unpleasant symptoms which are reputed to have occasionally followed doses of five grains must be devoid of any real danger, seeing that prompt recovery followed doses which may fairly be described as colossal.—*Medical Press*.

SOME POINTS IN THE TREATMENT OF TUBERCULOSIS.—Flick (*Transactions of the Philadelphia County Medical Society*, April 22, 1891) reports his experience in the use of iodoform and creosote in tuberculosis. Iodoform, dissolved in cod-liver oil, or olive oil, is given by inunction; its curative powers are limited to those cases in which the circulation has not yet been cut off from the deposit. Creosote is indicated in the advanced stage of the disease in addition to iodoform. In ten unselected cases treated by this method, one is apparently cured, three are approaching a cure, four have the disease arrested, and two have relapsed. The preparation of iodoform should last for several weeks; its odor, which is not particu-

larly offensive, can be disguised, if preferred, by oil of rose or anise. Slight toxic symptoms follow occasionally, but disappear on intermitting the inunctions. Patients should be rubbed once a day, for one-half to three-quarters of an hour. The front of the chest and the inside of the thighs take up the solution most readily. The creosote is given in hot water, running the dose up to thirty or forty drops a day, watching the urine.—*Univ. Med. Mag.*

GOUT AND FRUIT EATING.—In the last number of his *Archives of Surgery*, Mr. Jonathan Hutchinson says that he has for many years been in the habit of forbidding fruit to all patients who suffer from tendency to gout. In every instance in which a total abstainer of long standing has come under his observation for any affection related to gout, he has found on inquiry that the sufferer was a liberal fruit eater. Fruits are, of course, by no means all equally deleterious; cooked fruits, especially if eaten hot with added sugar, are the most injurious; the addition of cane to grape sugar adds much to the risk of disagreement. Fruit eaten raw and without the addition of sugar would appear to be comparatively safe. Natural instinct and dietetic tastes have already led the way in this direction; few wine drinkers take fruit or sweets to any extent, and Mr. Hutchinson suggests as a dietetic law that alcohol and fruit sugar ought never to be taken together, and he believes that the children of those who in former generations have established a gouty constitution may, although themselves water drinkers, excite active gout by the use of fruit and sugar.—*British Med. Journal*.

HYDROGEN PEROXIDE IN SURGICAL AFFECTIONS.—Dr. S. P. Eagleton (*Medical and Surgical Reporter*) says hydrogen peroxide is a positive germicide and a possible stimulant to granulating tissues. Owing to its especial property of eliminating oxygen, it is of unparalleled value in the distention of suppurating sinuses and cavities, especially in the mastoid region or where it is almost impossible to reach unhealthy surfaces by other means. The diluted solution is perfectly harmless, and can with safety be used in any quantity. The strong concentrated solution, syrupy in consistence, is a direct irritant to all tissues, and should never be used.



It possesses healing and cleansing qualities as well as those germicidal in nature. When exposed to light it loses strength; care should therefore be exercised in keeping the bottles well stopped with rubber corks, and in a cool, dry place. Fibrin, cellular tissue, and some metals, instantly decompose it. In contact with sugar and starch, it eliminates carbon dioxide ( $\text{CO}_2$ ). Albumen, gelatin, urea, and cutaneous tissues have no effect upon it, while ammonia, aconite, tobacco, and hydrocyanic acid increase its stability. In washing suppurating surfaces it should be used until oxidation ceases, thus showing a complete destruction of all existing purulent material.—*American Lancet*.

A NEW ANTISEPTIC.—At the Académie de Médecine, on April 28, M. Polaillon read a paper contributed by Dr. Berlioz, on a new antiseptic, "microcidine," which is composed of 75 per cent. of naphtholate of sodium and 25 per cent. of naphthol and phenyl compounds. It is a white powder obtained by adding to fused *B*-naphthol half its weight of caustic soda, and allowing the mixture to cool. It is soluble in three parts of water, and the solution, which is cheap, is said to possess considerable antiseptic powers, without being toxic or caustic or injurious to instruments or linen. The antiseptic properties of microcidine, while inferior to those of corrosive sublimate or naphthol, surpass those of carbolic and boracic acids ten and twenty times respectively. Microcidine is eliminated by the kidneys, and is antipyretic.—*Cincinnati Lancet-Clinic*.

#### A LITTLE GERM.—

A little germ in a sewer grew,  
And there increased to a million or two,  
When all set forth on mischief bent,  
And ascended a pipe till they came to a vent.  
They parleyed much which way to go,  
Then started up the waste-pipe slow:  
But a plumber there had set his trap,  
With many a twist and bang and rap,  
And into it the microbes flew  
To the number of a million or two.  
And then the flush came rushing down,  
And thus the plumber saved the town;  
For they were typhoid germs, they say,  
That fell in the plumber's trap that day.

—*Sanitary News*.

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

*When a change of address occurs please promptly notify the Publishers, THE J. E. BRYANT COMPANY (Limited), 58 Bay Street.*

TORONTO, SEPTEMBER 1, 1891.

### CANADIAN MEDICAL ASSOCIATION.

We are pleased to learn that the prospects are good for the next meeting of the Canadian Medical Association, which will be held in Montreal, September 16th, 17th, and 18th, in the schoolroom of St. George's Church (15 Stanley Street). It is unfortunate that this association has not met with that success which, as the representative society of the Dominion, its original promoters expected. It should receive the cordial and active support of all classes in our profession, from the Atlantic to the Pacific. The local societies in the provinces, counties, and cities, should all work together to place it on a substantial basis, and make it for Canada what the British Medical Association is in Great Britain. The members of the profession in Montreal are making great efforts for the coming meeting, and they deserve to be encouraged by a large attendance.

We are indebted to the secretary, Dr. Birkett, for the following list of papers, as far as it was completed August 24th:

- The Address on Surgery—Dr. Praeger, Nanaimo, B.C.
- The Address on Medicine: "Malaria, its Relations to and Influence over other Diseases"—Dr. Bray, Chatham, Ont.
- Address on Therapeutics: "Water, Some of its Therapeutic Uses"—Dr. Spencer, Brandon, Man.
- Dr. V. P. Gibney, New York—"Early Diagnosis, the most important factor in the treatment of Pott's Disease of the Spine."
- Dr. John Ridlon, New York—"Spondylitis."
- Dr. J. Price, Philadelphia—"A Plea for Early Hysterectomy."
- Dr. F. Buller, Montreal—"Functional Abnormalities of the Ocular Muscles." This paper is expected to be discussed by Drs. Stephens, Roosa, and Webster, New York.

- Dr. Mullin, Hamilton, Ont.—“Some Notes on Cases of Post-partum Hemorrhage.”
- Dr. Cotton, Cowansville, Que.—“Appendicitis.”
- Dr. Slack, Farnham, Que.—“Surgical Cases occurring in Country Practice.”
- Dr. Small, Ottawa—“Malignant Disease of the Cervix Complicating Labor.”
- Dr. W. S. Muir, Truro, N.S.—“Graves' Disease.”
- Dr. George Fenwick, Montreal—“Calculus Pyelitis.”
- Dr. Shepherd, Montreal—“Case of Strangulated Cæcal Hernia.”
- Dr. Buller, Montreal—“Conservative Surgery of the Eye.”
- Dr. James Bell, Montreal—“The Local Treatment of Tuberculosis of the Bladder through a Suprapubic Incision.”
- Dr. R. F. Ruttan, Montreal—“Lead and Drinking Water.”
- Dr. Wyatt Johnston, Montreal—“Microscopic Examination of Sputum in Heart Disease.”
- Dr. Phelps, New York—“The Mechanical Treatment of Hip-joint Disease.”
- Dr. Macallum, Toronto—“The Pathology of Anæmia.”
- Dr. J. W. Stirling, Montreal—“Cerebral Abscess following Mastoiditis; Operation—Recovery.”
- Papers have also been promised by Drs. T. Johnson-Alloway, Major, G. E. Armstrong, H. Lafleur, and L. Smith, Montreal.

An entirely new, and doubtless to many, an interesting feature of this year's meeting will be the devoting of an hour and a half each day to visiting the city hospitals. These hospitals are—Hôtel Dieu, Montreal General, and Notre Dame. Members of the staff attached to these institutions have kindly undertaken to exhibit cases and present other matters of interest in connection with hospital work.

The delegates and visiting members will be tendered a dinner by the profession of Montreal, to be held in the Windsor Hotel, and arrangements are being made for an excursion, should time and weather permit.

### MEDICAL ETHICS.

The Ontario Medical Association has recently been paying more attention to the sins of omission and commission of its members, in an ethical sense, than it did during the first years of its existence. At the last meeting, held in June, the following report of the Committee on Ethics, read by the chairman, Dr. Tucker, of Orono, was adopted:

“As the outcome of an investigation just completed, we recommend the addition to the Code of Ethics adopted by this association of the following clause, to be known as section 10 of article 5.

“(1) No physician or surgeon shall perform a *post mortem* on the patients of any other physician or surgeon without making a reasonable effort to have the attending physician or surgeon or the physician or surgeon whose professional reputation is likely to be influenced by the *post mortem* examination, or his chosen representative, present; and, further, if the presence of such

physician or surgeon, or his chosen representative, be objected to by the friends of the deceased, the physician or surgeon requested to make the *post mortem* shall refuse to make it unless instructed to do so by a coroner acting as such.

“(2) As the result of complaints made to this committee regarding unprofessional conduct by the violation of par. 3 of section 1 of article 2 of the Code of Ethics, relating to certain forms of advertisement, we recommend that the General Secretary be instructed to inform the offending members, by letter, that they are violating the Code of Ethics governing this body, to which their names are subject, and your committee will recommend the erasure of their names from the roll of membership of this association at its next annual meeting unless the offending be at once discontinued. Their reinstatement to be governed by article 1, par. 2, of the constitution.

“(3) Regarding the circular issued by a member of this association and brought before this committee, your committee recommend that a written apology be demanded by this association through its General Secretary for such a flagrant violation of our Code of Ethics, in default of which his name be erased from the roll of membership; reinstatement to be governed by article 12 of the constitution.”

### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Among the most active medical societies of the United States is the Mississippi Valley Medical Association. It has been in existence seventeen years, and will hold its next meeting at St. Louis, Mo., in October. The popular and able editor of the *St. Louis Medical Mirror*, Dr. Love, is the Chairman of the Committee of Arrangements. He has been kind enough to send us the following invitation:

*To the Subscribers and Readers of THE CANADIAN PRACTITIONER:*

The Mississippi Valley Medical Association will hold its seventeenth annual session at the Pickwick Theatre, Jefferson and Washington Avenues, St. Louis, October 14th, 15th, and 16th. A full programme of interesting papers has been prepared, and provision has been made for the fullest, freest, and most complete discussion of the same. Representative men from various sections of the country have been invited to open the discussions. The local profession of St. Louis is a unit to the end that visiting physicians shall be received and welcomed in a regular warm-hearted St. Louis style. The same qualifications for membership are requisite in this association as for the American Medical Association, the former being subordinate to the latter. If eligible, you and your friends, together with your wives and families, are most cordially invited to visit St. Louis, and enter into the scientific work and the social pleasures as you may desire.

I. N. LOVE, M.D.,

*Chairman Committee Arrangements.*

St. Louis, Mo., August 19th.

### COUNCIL SUPPLEMENTAL EXAMINATION.

At the last meeting of the Ontario Medical Council it was decided that no supplemental examination would be held this year. We publish in this issue a letter from one of the students, who complains of the decision which was reached. We regret very much that the Council is unable to see its way clear to hold a supplemental every year. We understand, however, that it is simply a question of ways and means.

The finances of the Council are not in a desirable condition, and it happened that there was no money in hand to conduct the extra examination in September. As examinations under the modern improved methods have become largely practical in character, the expenses of conducting have been greatly increased. Under such circumstances, the profession of this province will not show any strong desire to come to the rescue of rejected students at the present juncture.

There has been some misconception on the part of some respecting this supplemental examination. It has never been recognized, as a rule, that two examinations should be held in each year. In three different years the extra examinations were held by special votes at three different meetings of the Council. The contention that the Council has made a specific change in its regulations, without giving sufficient notice, is, therefore, not exactly correct. We hope, however, that the time will soon arrive when the Council will be able to hold two examinations in each and every year.

### MARITIME MEDICAL ASSOCIATION.

We had occasion to refer last year to the proposed organization of a medical society in the Maritime Provinces. We learn from the *Maritime Medical News* that the preliminary arrangements were satisfactorily completed, and that the inaugural meeting was held in St. John, July 22nd and 23rd, under the presidency of Dr. William Bayard.

We are pleased to hear that the meeting was a success, and we hope that the new association will have a bright future. The provinces included are New Brunswick, Nova Scotia, and Prince Edward Island. There is plenty of good

material in these three provinces to form an excellent society, and the enthusiasm displayed at the recent meeting will give great encouragement to its promoters. The next meeting will be held in Halifax. The officers will be: President, Hon. Dr. Parker, of Halifax; Vice-Presidents, Drs. Brown, Fredericton; Farrel, Halifax; and McLeod, Charlottetown; Treasurer, Dr. De Witt, Halifax; Secretary, Dr. Morrow, Halifax; Committee of Arrangements, Drs. Tobin, Wickwire, Black, and Slayter.

### A CANADIAN MEDICAL TEMPERANCE ASSOCIATION.

It has been decided to organize a Canadian Medical Temperance Association during the annual meeting of the Canadian Medical Association at Montreal, September 17th, 18th, and 19th. The work of organization has been reserved for the second day, the 18th. Similar associations already exist in the United States and Great Britain. The objects will be to advance the practice of total abstinence in and through the profession, and to promote investigation as to the action of alcohol in health and disease. Members will be expected to be total abstainers, but will not be required to sign any pledge. The liberty of members in prescribing alcohol as a medicine will be entirely uncontrolled.

All regular practitioners of medicine or of any of its recognized departments, who are willing to join such an association, will confer a favor by sending in their name and address *at once* to Dr. Harley Smith, 256 Spadina Avenue, Toronto. In order to become a member, it is not necessary to be present at the meeting; but it is earnestly hoped that all who can will go to Montreal in order to give the association a good start. There will be a nominal fee, sufficient to cover the expenses of management.

### THE SUPPOSED CURATIVE EFFECT OF OPERATIONS, *PER SE*.

We publish in this issue an abstract of a very interesting paper by Professor J. William White on the above subject which appeared in the August number of the *Annals of Surgery*. The psychical influences in both medicine and surgery are very potent for good or evil. Dr.



White's investigations as to the effects of operations from this point of view have brought out facts which are very interesting. We hope to hear more from this distinguished clinical teacher on the same subject.

### NEW WORK ON MEDICINE.

We understand the new work on Practice of Medicine, by Professor Osler, of Baltimore, is completed, and is well advanced in the printer's hands. The new text-book is intended for both students and practitioners. The publishers, Messrs. Appleton & Co., of New York, expect to have it out in a few weeks.

### Correspondence.

Editor of THE CANADIAN PRACTITIONER :

SIR,—I wish to say a few words in regard to the action of the College of Physicians and Surgeons of Ontario during the last session in regard to the cancelling of the regular examination of the Council in September of each year. I think this is an injustice to many of the students, and that the officers had not much consideration for the interests of the students in cancelling the usual examination this year, because due notice of such a change has not been given.

Take the case of a "primary" candidate who was rejected on the spring examination, and especially those who were rejected previous to the examination of '91, who had purposely left off the examination last spring intending to take it this fall, so that they could do something in their third-year work last winter's session—it will cause such a student considerable extra work to prepare for both primary and final Council examination in the spring of '92.

In the case of the student who was rejected last spring and wished to enter the third-year work untrammelled by primary studies, such a privilege is denied him, and he must carry two years' work during the coming session, which is more than enough, as each year is sufficient of itself for any student to accomplish successfully. Again, in the case of candidates for the final examination, is it giving a man a fair chance to keep him from writing for a whole year when possibly he has failed only on one subject? It is not necessary to say that any such student

would prefer to be allowed to try again, and, if successful, be in a position to obtain some remuneration for the time and money he has already spent in college.

When we consider that about 50 per cent. of all the candidates in the spring are rejected, is it asking too much when we ask that the proposed change be not made, so that we may be in a position to give each winter session to its own work and be in a position to benefit thereby?

Thanking you, Mr. Editor, for your space, and hoping that something will be done so that the examination will be held as usual, I remain, yours,  
A STUDENT.

### Reviews.

*Sexual Neurasthenia* (Nervous Exhaustion), its Hygiene, Causes, Symptoms, and Treatment. With a chapter on Diet for the Nervous by Geo. M. Beard, A.M., M.D., formerly lecturer on Nervous Diseases in the University of New York, etc. Edited by A. D. Rockwell, A.M., M.D., Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital, etc. Third edition, with Formulas. New York: E. B. Treat. Price \$2.75.

This work contains principally the posthumous manuscript of the late Dr. Beard, under the editorship of Dr. A. D. Rockwell. It has found much favor, and now the third edition is being issued. Some new information is given respecting the various forms of treatment by electricity.

*On Painful Menstruation: The Harveian Lectures, 1890.* By Francis Henry Champneys, M.A., M.D., Oxon., F.R.C.P. Physician-Accoucheur and Lecturer in Obstetric Medicine at St. Bartholomew's Hospital, etc. London: H. K. Lewis, 136 Gower St., W.C.

The general practitioner meets with no condition that is likely to cause greater perplexity than painful menstruation. Although it is, properly speaking, a symptom, and produced by a variety of causes, still it ranks with many serious diseases in importance, and is surrounded with many serious difficulties. Dr. Champneys deals with the subject in a scientific way, and yet gives many practical hints, especially in the way of treatment. The lectures will prove very valuable to general physicians as well as obstetricians and gynecologists.

## Personal.

PROF. OSLER, of Baltimore, spent a few days of August in Toronto.

DRS. A. B. ATHERTON and A. O. Hastings, of Toronto, have returned from England.

DR. JAS. F. W. ROSS, of Toronto, lost his second son, a bright boy, æt. 3 years and 10 months, by death from appendicitis, Aug. 18th, after an illness of three and a half days.

DR. J. P. CROZER GRIFFITH has been elected Professor of the Diseases of Children in the Medical Department of the University of Pennsylvania.

THE following appointments have been made in the Woman's Medical College, Toronto :

*Demonstrator of Anatomy*: Dr. S. P. Boyle, *vice* Dr. Alice McLaughlin (resigned).

*Associate Lecturer in Obstetrics*: Dr. H. T. Machell.

*Lecturer in Theoretical Chemistry*: Professor Shuttleworth.

*Lecturer in Toxicology*: Dr. Graham Chambers.

*Assistant Demonstrators of Anatomy*: Dr. L. Graham and Dr. L. A. Davis.

The following officers were elected for the ensuing year in the Prince Edward Island Medical Association :

*President*: Dr. D. G. McKay, of Summerside.  
*1st Vice-President*: Dr. F. P. Taylor, of Charlottetown.

*2nd Vice-President*: Dr. Alex. McNeil, of Kensington.

*3rd Vice-President*: Dr. Peter McLaren, of Brudenell.

*Secretary*: Dr. S. R. Jenkins, of Charlottetown.

*Treasurer*: Richard Johnson, of Charlottetown.

*Executive Committee*: Dr. J. Gillis, Summerside; Dr. Alex. McNeil, Kensington; Dr. Warburton, Charlottetown.

*Reception Committee*: Dr. I. H. McLellan, Summerside; Dr. J. Sutherland, Bedeque; Dr. P. McN. Bearisto, Summerside.

At its late meeting, the Medical Examining Board of Virginia granted certificates to practice to forty-seven out of seventy-seven candidates.

## Obituary.

DR. R. T. GODFREY, of Montreal, died at his residence, of paralysis, after a lingering illness, at the age of 72 years. Dr. Godfrey was a prominent figure in Montreal up to two years ago, when he retired from practice owing to ill-health. He served during the forties in the army of Queen Isabella of Spain, in connection with the English contingent sent to her assistance. He was also a most energetic worker amongst the poor fever and cholera-stricken patients here in 1847. He was a most successful practitioner, and during his career amassed a fortune of over a quarter of a million.

## Therapeutic Notes.

### OINTMENT FOR PRURITUS ANI:—

R. Hydrargyr. bichlorid . . . . gr. jss.  
Ammon. muriat . . . . gr. ij.  
Acid. Carbolie . . . . 5j.  
Glycerini . . . . 5ij.  
Aquæ rosæ . . . . q. s. ad. 5vj.

M.

Sig. Apply locally, morning and evening.—*St. Louis Medical and Surgical Journal*.

TREATMENT FOR FRECKLES.—A writer in the *Lyon Medical* advocated the following:—

R. Ammoniæ muriat . . . . 4  
Acid. muriatic. dil. . . . 5  
Glycerini . . . . 30  
Lait virginal . . . . 50

M.

Sig. The freckles are touched twice daily with a small brush dipped in the above.

As some may not know what Lait virginal is, the formula is here given:—

R. Tinct. benzoin . . . . 1  
Aquæ rosæ . . . . 4

Misce bene.

This must be well shaken in order to obtain the milky color characteristic of the mixture.—*St. Louis Medical and Surgical Journal*.

### OINTMENT FOR HEMORRHOIDS:—

Hydrochlorate of cocaine . . grs. xvj.  
Sulphate of morphine . . grs. v.  
Sulphate of atropine . . grs. iv.  
Powdered tannin . . . . grs. xvj.  
Vaseline . . . . 5 j.  
Essence of rose . . . . q. s.

Make an ointment and apply to the affected parts after each movement from the bowels. It is necessary to have the discharges of soft consistence.—*Journal American Medical Association*.

### Miscellaneous.

POST-GRADUATE COURSE MEDICAL FACULTY UNIVERSITY OF TORONTO.—An exceedingly interesting pamphlet has been received from the Medical Faculty of the University of Toronto, containing the lectures delivered at the post-graduate course of that institution. The pamphlet is a reprint from THE CANADIAN PRACTITIONER. The lectures are all on important subjects, and are of the most practical nature, containing, among others, one on "The Present Position of Antiseptic Surgery," by J. William White, M.D., Professor of Clinical Surgery in the University of Pennsylvania. It is in the nature of a reply to Mr. Tait's recent criticism of Sir Joseph Lister's Berlin address.—*Buffalo Times.*

THIS may save the time of some busy physician: A very loquacious lady, calling one day to consult her physician, talked on and on with such volubility that the latter could not get in a word. Growing impatient, he at length told her to put out her tongue, which she did. He then said: "Now please keep it there until you have heard what I have to say to you."—*Canada Health Journal.*

THE MAYBRICK INSURANCE TRIAL.—In the recent Maybrick trial in England, Mrs. Maybrick was found guilty of the murder of her husband. By the will of her husband she is entitled to a life interest in an insurance policy. After her conviction her solicitor brought an action against the insurance company for the amount of the policy. The judges decided that as she had murdered her husband she had forfeited all claim to the money. The question now arises: What are the rights of the children in the matter? Mr. Maybrick had directed that the money should be invested in the names of his brothers as trustees for his children, but that the widow should receive the interest during her life.

THE KOCH INSTITUTE.—The clinical section of the Koch Institute is completed. The buildings comprise nine pavilions, seven for 108 patients, and two for the medical officers and attendants. The scientific section is fast approaching completion. Dr. Pfeiffer, Koch's first assistant, will have charge of the scientific section, and Professor Brieger the clinical department. Koch will receive a salary of five thousand dollars; Pfeiffer and Brieger, fifteen hundred each.

## ---Canadian Medical Association---

# TWENTY-FOURTH ANNUAL MEETING

16th, 17th, and 18th September, 1891.

The Twenty-fourth Annual Meeting of the Canadian Medical Association will be held in the SCHOOL-ROOM OF ST. GEORGE'S CHURCH (15 STANLEY STREET), MONTREAL, on Wednesday, Thursday, and Friday, 16th, 17th, and 18th September, 1891.

Members desirous of reading papers or presenting cases will kindly communicate with the Secretary, as to the title of paper or nature of case, *as early as possible*. Arrangements have been made with the Grand Trunk and Canadian Pacific Railways, whereby Members and Delegates may obtain Return Tickets for one fare and one-third.

Members and Delegates will please bear in mind that Certificates entitling them to reduced rates *are to be obtained from the Station Agent at the place of departure*: one full fare is to be paid, and upon presentation of the Certificate on the return journey, a ticket will be issued at one-third of full fare.

H. S. BIRKETT, General Secretary,  
123 Stanley Street, MONTREAL.



THE  
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TORONTO, SEPTEMBER 16, 1891.

Original Communications.

SOME POINTS IN THE PATHOLOGY  
OF KIDNEY DISEASE.\*

BY H. A. MACALLUM, M.B., LONDON, ONT.

*Mr. President and Gentlemen:*

The pathology of kidney disease has been a more or less close study of mine for the last four years, and as a consequence of this my views have changed much in that time. I have in my possession microscopic specimens of some sixty cases of "Bright's Disease," eleven of which are from *post mortem* examinations made by myself. You must not expect me to classify these. I think the less one does in the classification of Bright's disease the better, at least from a pathological standpoint. The chronic character of the changes seen in all my specimens will be the first thing to strike any observer. I think I am right in saying that death from "simple acute Bright's disease" is very rare, if occurring at all.

I am going to deal only with a few points in kidney pathology, and shall divide the observations into (a) those bearing on the malpighian tuft, (b) those bearing on the tubular contents.

The former of these will receive the major share of attention, so that a few physiological facts stated here will help our pathological examination further on.

- (1) The tuft is a living filter.
- (2) Its filtering quality depends on how well the vascular and nerve supply keep healthy the vascular tuft epithelium.
- (3) If the nutrition of this epithelium is depressed or affected by impaired nerve supply, or by retarded or toxic blood supply, albumin is allowed to strain into the tubes and appear in the urine.
- (4) The capillaries that make up the tuft differ in construction, physiology, and pathology, from those of any other situation of the body. Treatments with the best method of microscopical technique fail to show any endothelial outline in their walls.

Each capillary seems like one continuous tube, with nuclei placed irregularly along its course. On account, I suppose, of the continuous character of the capillary tubes, no leucocytes can diapedese in health or disease. It matters not how severe the inflammation may be, no pus can be found free within Bowman's capsule; and if one does find any there, its occasional presence can be explained by its diapedesing from without, or by histological manipulation.

Having refreshed our histological and physiological knowledge, we can proceed to a study of the changes seen within the tufts.

I will dwell briefly on the following in the glomeruli:

- (a) Œdema and fatty degeneration of the vascular epithelium.

\*A paper read before the Ontario Medical Association.

- (b) Exfoliation of the layer.
- (c) Hyaline thickening of the capillary walls.
- (d) Plugging of the capillaries with micrococci and leucocytes.
- (e) Amyloid deposit.

(a) (Edema of the glomerular epithelium will occur very often in death from any acute disease, but fatty degeneration and other necrotic changes are much more advanced, and are always accompanied by similar changes in the epithelium of the convoluted tubes. It has been asserted that the change may be limited to the glomeruli, but I have not found any kidney showing such a change, and, what is more, I cannot see how such a state of affairs could exist.

(b) Exfoliation of the epithelium. Its most marked examples appear in the scarlatina kidney; but as the ptomaine of this fever, in the process of excretion, is very probably the cause of the necrotic change, the same condition must necessarily accompany—and does, too—other toxic blood conditions, as diphtheria, erysipelas, fatal jaundice, etc. The exfoliation may be so complete as to fill up by crescents the capsule, and press upon the tuft, diminishing the vascular supply to the convoluted tubes. Our clinical history will read here, suppression of urine. This exfoliated mass with a necrosed tuft may fall into hyaline material and be mistaken for amyloid deposit.

(c) Hyaline thickening of the capillary walls is a very frequent change. This is accompanied by a disappearance of the nuclei (often an increase of them), and some authors believe the capillary endothelium is frequently cast off. The change tends towards the obliteration of the lumen of the capillary, and again a consequent impoverished vascular supply for the convoluted tubes.

(d) The plugging of a capillary loop by micrococci is attended with the following peculiar changes: The wall of such a capillary seems to lose its nuclei, and even looks thin (possibly from the loss of endothelium); the neighboring capillaries, although holding no micrococci, undergo a similar change, and, in addition, all the capillaries are crowded with leucocytes, a virtual capillary thrombosis, yet no leucocytes can be seen free in the tissue without the capillary walls.

This formation of thrombi by the leucocytes, of course, tends to arrest the circulation through the tuft, and again we have necrosis of the convoluted tubes.

While this is going on within Bowman's capsule, in all the surrounding tissues we have a round cell infiltration most marked at the part where the vessel enters and departs. Here I might emphasize the fact that the earliest appearance of cirrhosis (likely from arteritis) is often outside where the efferent vessel leaves, and the afferent enters, Bowman's capsule. These round cells, seen flooding the neighboring tissues, may dissolve the capsule and swarm into the tuft; but generally the capsule will resist the invasion of leucocytes, and while the tuft, which may have already undergone necrosis, atrophies, the round cells crowding will cause collapse of its capsule.

(e) The first deposit of amyloid material in the capillary wall is patchy. This irregular deposition will continue till all the capillary walls are involved. This deposit leaves an irregular lumen to the vessel and diminishes its calibre in places, and in this way very slight deposits are attended with necrosis of tubular epithelium. I do not believe any quantity of amyloid material can occur without nephritis. I have never seen amyloid material outside the vessel walls, and I am strongly of the belief that there never was such a thing as amyloid casts; the compound hyaline casts that have been misnamed waxy are not even pathognomonic of this form of nephritis, but will frequently appear in samples of urine from any form of chronic Bright's disease. Nothing will resist the action of suppuration like amyloid material, and it is never absorbed, even after the cause of its deposition is removed.

I shall leave any other change in the tuft, and hasten on to the consideration of the tubular contents. We have seen that on account of the intimate relation of the vascular supply of the tuft and convoluted tubes, pathological changes in the former run concurrently with those of the latter. It is a common thing while in health for the lumen of the uriniferous tubes to give a perfect cast of themselves. These are long, stringy, and wavy, and were formerly called "mucus cylinders." Their supposedly mucus origin is erroneous, and they

are without doubt coagulated sero-albumin and paraglobulin. I have made careful studies of their structure, and have satisfied myself that the living epithelium secretes some ferment which causes the albumin, which chances to transude into the tubes, to become coagulated to form these cylinders. They are most plentifully seen in cases of physiological albuminuria; their presence or absence in a sample of urine I consider of value in diagnosing physiological from organic albuminuria.

Allow me to say here that any physician who depends wholly on the chemical and microscopical examination of albuminous urine without reference to the general condition and history will find himself making sad blunders, so that in forming my diagnosis of physiological albuminuria I would not leave out of sight the following six points along with the cylinders: (1) The intermission in the output of albumin; (2) no impairment of health; (3) amount of albumin less than one-fifth from a 24-hour sample; (4) specific gravity of same about or over 1.024; (5) the youth of the patient; (6) absence of pus, blood, or casts. Yet I have seen in a plentiful sample of mucus cylinders a few shade off into casts, and the other end of the cast often shading off again into mucus cylinders. I think I can put myself clearly before you when I say that albuminous urine showing plentiful mucus cylinders only is almost certainly physiological; their absence is a point, and a strong one at that, in favor of the case being organic. Leaving aside cylinders for the examination of the tubular epithelium in nephritis, we are confronted with the term "cloudy swelling." I do not like it, because it is used loosely to cover numerous changes. I prefer to designate the earliest changes as "oedema of the cells." The best guide to this is the distended and actually dilated membrana propria. This dilation is not sufficiently emphasized by authors; it does not always stop with oedema, but may reach an enormous diameter after its epithelium is swept off. I believe that this dilatation, often arising from plugging of the tube below, ends in the formation of a cyst in this manner, and thus we get cystic kidneys.

Following upon oedema we get hyaline degeneration of the epithelial cells, mostly confined to that half of the cell nearest to the tube

lumen. Here hyaline granules make their appearance; and the free border of the cells having broken down, these particles commingle with those from the neighboring cells to form with albumin a coagulated cast of the diseased tube.

The half of the cell with its nucleus often remains behind; and if the change terminates here, this maimed cell will rebuild its free border, and even the nucleus can be seen occasionally undergoing karyokinesis to replace the swept off cells. This shows what wonderful reparative power injured epithelium may possess. The change may be so complete as to involve the whole cell, leading by fragmentation to the disappearance of the nucleus; casts from this complete necrosis will occasionally show crescents of undegenerated epithelium which have been carried from the glomeruli into the tubes.

Another change in some way allied to the last is fatty degeneration. The fat droplets are deposited in the border of the cell next to the membrana propria; it is seldom that the entire cell shows this change unless from toxic doses of phosphorus, arsenic, etc. A sample of acute Bright's disease showing plentiful fatty casts does not yield a very hopeful outlook for the patient's return to health, because the tubes lose their epithelium completely.

One more point before bringing this paper to a close. I referred to dilatation of the membrana propria as a valuable point in showing that necrotic changes had taken place in the tubular epithelium. I will call your attention to a diminution of their calibre as pointing to atrophy or cirrhosis.

### CHLORALISM.

BY J. B. MATTISON, M.D.,

Medical Director Brooklyn Home for Habituals. Member Amer. Med. Ass'n., Amer. Ass'n. for the Cure of Inebriety, N. Y. Academy of Medicine, N. Y. Medico-Legal Society, N. Y. Neurological Society, Medical Society of the County of Kings.

Chloralism has largely waned in the last half decade. The advent of other—though not better, in some respects, I am bound to say—hypnotics has lessened the growth of a toxic disease that, ten years ago, bade fair to assume large proportions and wreck some of the best in the land. Its victims came mainly from the educated rank of our people—brain-workers—those who by super-zealous devotion to duty, or long and exhausting vigils over mental toil, had



banished the "sweet restorer." Many chloral inebriates were found among the large and—at that time more than now—enlarging number of morphine habitués who were impelled to its use by the inroads of the poppy along insomnic lines.

So, too, among rum-takers; the marvellous power of chloral, in wooing the drowsy god, after a big debauch, led to its use—with or without medical counsel—that, at times, could only be called reckless, and that again and again brought the long last sleep.

Besides the use of confirmed addiction from the uncaredful use of chloral, it has a pernicious power *per se* that is unique—greater than morphine, though the latter is more snareful and more difficult to cure. Regarding this effect, along various lines—psychic and somatic, no more complete picture has ever been presented than that by the writer, eleven years ago, in a paper—"Chloral Inebriety"—read before the Medical Society of the County of Kings, April 15th, 1879 (at command of any one who may desire and will write for a copy), which contains a striking case, akin to the one presented in this paper, noting a special effect of chloral, and mainly peculiar to that drug.

Quoting from that paper:—"I refer to peculiar pains in the limbs, simulating neuralgia or rheumatism, yet unlike the former, as they are not limited to the course of the nerves, and differing from the latter in not being exactly *in* the joints, but rather *girding* the limbs just above or below them, without pain or pressure, and unaggravated by movement. Their diagnostic import is that they may be mistaken for the diseases they resemble; and their origin being unsuspected, prove obstinate to treatment."

Similar pains are sometimes noted in chronic chloroform-takers. Anstie thought the latter fact afforded some support to the theory that chloral acts by evolving chloroform in the blood. He expressed the opinion that some cases of supposed rheumatic or neuralgic pain would be found on careful inquiry to be due to chloral taking, and cited the following case in which this symptom was prominent:

A. B., physician, began the use of chloral February 1st, 1873, in 30 grain doses, to procure sleep when kept awake by great anxiety. In two months noticed

inflamed and weakened eyes, with scalding tears. Continued the drug, however, sometimes increasing the dose and repeating it. From April to August the usual amount taken was one drachm; in the latter month he commenced using it during the day, one to three times. About December 1st he began to realize the amount he was daily taking, and found it half an ounce, sometimes more. He now began to complain of severe general pains, especially about the joints, which grew worse in the moist air of London; there was no tenderness, and they were not increased by motion. Chloral did not relieve them, except when it put him to sleep. Soon after this he made a mistake in his dose, using from a stronger solution, which brought on the pains with frightful severity, and Dr. Anstie was summoned. He found him with suffused eyes, haggard features, sleepless, peculiar, broken speech, partial paraplegia, loss of co-ordination, and excessive joint pains. An examination disclosed that he had taken more than an ounce of chloral the preceding day. It was at once withdrawn. Cannabis indica was used to relieve the nervous disturbance, tonics given, and under this treatment he recovered.

The following case under our care is of interest:

Mrs. A., æt. 37; began to suffer from insomnia sixteen years ago, which persisted in varying degree until Dec., 1889, when a severe injury, confining her to bed for fourteen weeks, increased this wakeful condition until it became essential to compel sleep. Chloral secured it. The initial dose was 15 grains, at bedtime. This amount sufficed for 14 months, when she began to suffer severe limb pains—not increased by pressure or movement—which soon resulted in a sharp and prolonged bout of hysteria and nervous prostration with increased agrypnia. The chloral dose was doubled, but without effect. During several weeks various hypnotics were tried, with ill success; her physician declared, "In the endeavor to give her sleep I almost exhausted the Pharmacopœia." Finally hyoscyamine was given. This broke the insomnia, but for some reason, after a week's use, recourse was again had to chloral, and this was continued until a week before coming to us, when a new medical adviser decreased it and gave hyoscyamus, with the result of much lessened pain but little better sleep.

At time of placing herself under our care, Mrs. A. was weak, sleepless, anorexic, and greatly depressed; her physician wrote, "This chloral taking, with the shock from the horrible injury she received, has almost entirely wrecked

her nervous system." The chloral was at once withdrawn, and 40 grains chloralamid given. It brought a full night's sleep, without ill after-effects. During the following fortnight, various hypnotics, sulfonal, paraldehyde, morphine, codeine, hyoscine, somnal, and chloralamid, were used. The last named proved by far the best—always fetching refreshing slumber for several hours—and was continued. Meantime she was placed on large doses of strychnine, and two grains thrice daily of quinine. In ten days increased strength permitted a drive, and in a few days more her appearance at every meal. The peculiar pains steadily lessened, and in a fortnight were a thing of the past. The chloralamid was gradually decreased during a month, and then ended. The strychnine and quinine, after a few weeks, were followed by phosphorus and Fowler's solution, with an eight-minute bedtime galvanic seance. Under this treatment Mrs. A. progressively improved in every way, and at this writing she asserts that "life is worth living," and is "feeling better than for years." To complete and confirm convalescence we have advised, in view of her insomniac record, a sea trip, with a short tour abroad, and the winter spent in Bermuda.

This case is instructive. It proves anew the snareful effects of chloral; yet, despite this and other drawbacks, we consider it, in some form, first among hypnotics. Of all the new claimants for favor in insomnia, the two most effective contain it, somnal and chloralamid. The latter we think the better. While deeming it less likely to enslave by continued use, it certainly is less depressing, and the sequelæ are less unpleasant. We use it largely—dose, 30 to 60 grains on tongue at bedtime—and regard it a very valuable addition to our resources.

### EXTRACT FROM THE ADDRESS IN MEDICINE,

*Delivered at the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891,*

By T. LAUDER BRUNTON, M.D., D.Sc. EDIN.,

L.L.D. (HON.) ABER., F.R.C.P., F.R.S.,

Lecturer on Materia Medica and Therapeutics and Assistant Physician, St. Bartholomew's Hospital.

### TWENTY-FIVE YEARS OF MEDICAL PROGRESS.

When friends meet again after a prolonged separation they almost invariably begin to talk about the changes that have occurred since they parted. In a few weeks more it will be just a quarter of a cen-

tury since the President of this Association and I occupied adjacent rooms in a hospital as fellow resident physicians, but since then our spheres of work have kept us much apart. It is therefore natural that I should take as my subject of address to-day the changes that have occurred in the profession to which we both belong during the time that has elapsed since we were comrades together. Perhaps there is no period in the whole history of medicine in which such rapid changes have taken place as in the last five-and-twenty years. It is impossible to give anything like a complete account of these in the brief space of one hour, and I shall therefore restrict myself to a few of the more prominent points, and especially those that have come directly under my personal cognisance; for, like the man who made one-half of his fortune by attending to his own affairs and the other half by leaving other people's alone, I may probably utilise the time at my disposal best by speaking of what I know myself and leaving other things out.

*Advances in Knowledge and Teaching due to Experimental Method.*—These changes have occurred both in the profession itself and also to some extent—in this country at least—in the education and training of the men who enter it. We notice, first, that a very great increase has occurred in the knowledge of the nature, causation, and treatment of diseases, possessed by the profession as a whole, but perhaps a still greater gain is the general adoption of the experimental method by which most of our recent knowledge has been acquired, and from which we may hope for even greater advantages in the future. In correspondence with the acquirement of knowledge, we notice also a great alteration in the teaching of medicine, and especially prominent is the tendency to make such teaching practical, instead of theoretical, by training men to place their dependence upon objective facts, and not to receive without experimental data the theories or speculations of any master, however great he may be.

*Practical Training.*—Five-and-twenty years ago not only was practical training such as we now find in the scientific departments of medicine—chemistry, physiology, pathology, and to a certain extent also pharmacology—almost entirely wanting, but even in general clinical medicine, not to mention the special departments of the throat, eye, and ear, it was very deficient as compared with what it is now.

*Direction of Advance.*—The greatest advance made in the last twenty-five years has been in the direction of the accumulation, co-ordination, and teaching of facts instead of theories, of the phenomena of Nature as opposed to the fancies of the human mind.

*Co-ordination of Facts.*—But the mere accumulation of facts is of little use unless they can be so arranged, compared, and grouped as to bring them into relationship with some general law, and this we find in the world's history has been done from time to time by some master-mind. In the case of medicine this has also occurred to a great extent during the last five-and-twenty years.

*Changes in Medical Students.*—But great as the changes have been during the last five-and-twenty years in the profession itself, they are perhaps quite as great in the men who enter it. The days when Bob Sawyer was taken as a type of a medical student have long since gone by, and I should think

in all probability there is no class in which one can find so many gentlemanly, thoroughly well-educated and hardworking men as amongst the medical students of the present day. The change began rather more than twenty-five years ago, for it was in 1861 that the regulation of the General Medical Council to the effect that before entering on the medical profession each student should pass a preliminary examination in general education came into force. While our President and I were at college together we had amongst our fellow-students two classes, one consisting of men who had not passed a preliminary examination, and called Old Statutes, and the other of those who had passed, called New Statutes men. The class of Old Statutes men was a very mixed one; many of them, of course, were exceedingly good, able, energetic, and industrious; but a number were also lazy and idle, while some of them were distinctly dissolute and disreputable. The New Statutes men, on the contrary, were, upon the whole, steady and hardworking. The reason of this was that under the old statutes parents frequently thought that when a boy failed to learn anything at school, and was too unsteady to hope for success in commerce, he was good enough to make a medical student of. The preliminary examination at once cut out all those who, by their idleness or stupidity at school, were unable to come up to the required entrance standard. Some of the idlest of our fellow-students under the old statutes, after studying for several years and failing to pass their examinations, drifted into other occupations. Others, again, after repeated trials, managed to scrape through their examinations and entered the profession. Probably some of those who have supplied the lack of book knowledge by experience gained in practice still survive and flourish, but most of the Old Statutes men now engaged in practice belonged to the better class, and would have gained access to the profession no matter how difficult their examinations might have been. There may be a very few exceptions, but I think we may be quite sure that nearly all those who are now thriving have either thorough knowledge or much *savoir faire*, for incompetent men get weeded out in the struggle for existence, which in the medical profession is a very hard one, and of late years has been getting harder and harder.

*Apparent Change in Disease.*—Increased knowledge of diagnosis has led to an apparent change in the mortality from different diseases. Thus, the frequency of deaths from heart disease appears to be much greater, and that from apoplexy much smaller now than fifty years ago. In all probability this difference is not real but only apparent, and is due to the more accurate diagnosis by which the presence of cardiac disease is now ascertained. The supposed increase in the frequency of cancer is probably in great measure due to a similar cause, for I am quite certain that many cases which were formerly classed as chronic diarrhoea, dysentery, jaundice, or dropsy, were really due to malignant disease of the abdomen, while others probably depended upon unrecognised disease of the kidney. For up to a recent date so little attention was paid to the condition of the urine that about fifteen years ago, when examining proposers for life assurance in place of a friend who was away on his autumn holiday, I was astonished to find that there was no

apparatus at the office for examining urine, and I believe that it is only within the last ten or twelve years that an examination of the urine for life assurance has become general.

*Real Changes in Disease.*—But real changes as well as apparent ones have occurred in diseases. Some have become more frequent and others are rarer. Thus, typhoid fever is almost certainly more common, because the increase of our sewage system has given greater facilities for its spread. Typhus fever, on the other hand, has become comparatively rare, and the story of its extermination in Edinburgh is very interesting. Five-and-twenty years ago your President was constantly wearing a smoking cap because his head had been shaved during an attack of typhus, and a few months later one of the physicians and two of the house physicians to the hospital in Edinburgh died of the disease, while another just escaped with his life. There were, I believe, at the end of 1867 nearly 150 typhus patients in the hospital at once. A few years later the disease was completely exterminated by the alterations in the town necessitated by the new university buildings. A certain narrow lane called Hastie's Close, which was a hotbed of typhus fever, and from which the disease used to make periodical excursions into the neighboring districts, was pulled down, and since then typhus has almost entirely disappeared. Pyæmia is another disease which, although not totally extinct, is very greatly lessened in virulence. When I was a student it was the dread of the surgical wards, and I remember one patient dying of it who had been admitted simply for a slight injury to the finger tip, which necessitated amputation of the last phalanx. Now, thanks to the antiseptic treatment introduced by Lister, such cases are almost unknown.

*New Methods.*—The rapid increase in our knowledge has been due not merely to the constant use of old methods, but to the introduction of new ones, and more especially to the general recognition of the fact that the same strategy which has often proved so successful in war is to be applied in attacking complex problems. They are to be separated as far as possible into their several components and each of these is to be overcome in detail. As presented to us by observation at the bedside, the problems of disease are too complex for us to solve, and we are only succeeding in doing it by examining the various factors one by one in the laboratory. The greatly increased powers of the microscope and the better methods of illumination have been of the greatest service, but their utility would be very much less than it is had it not been for the general introduction of the microtome and the invention of new methods of staining. When I was a student the microtome was only used for cutting sections of wood in the class of practical botany. About that time it was employed by Mr. Stirling, Professor Goodsir's assistant, in the preparation of animal tissues, but I believe that we owe its general introduction to Professor Rutherford. The facility with which sections are made by it has made microscopical research much less tedious, and has enabled trained histologists to do more work in a given time, and medical students to acquire knowledge more rapidly. But without the method of staining introduced by Weigert and Ehrlich, we should, even with the best microscopes, be unable



to recognise most of the microbes which are so important in the causation of disease.

*Good Out of Evil.*—It is very interesting to see how good may come out of evil, and a striking illustration of this is afforded by the history of medicine in the period we are now considering; for it seems to me that we can trace a great part of our knowledge of disease germs and of the antiseptic remedies we use in treatment to the cupidity and stupidity of the Spaniards of the Cordilleras. Their cupidity led them to cut down the cinchona trees of the Andes in order to fill their pockets with the gold they received in exchange for the precious bark, while their stupidity prevented them from planting new trees to replace those which they felled. The consequence of this was that quinine became so dear that it was evident that any one who could produce it artificially would make his fortune. Amongst others, Perkins tried to do this, and, although he failed, yet in the attempt he discovered the anilin dyes, whose staining powers have not only helped us so much in ordinary histological research, but have made it possible to distinguish disease germs which without them would have been invisible. But the discovery of the anilin colors was only one outcome of the attempt to make quinine synthetically, for the impulse which it gave to the study of aromatic compounds has led to the production of salicylic acid and acetanilide, antipyrin, phenacetin, and all the other antipyretic remedies, whose number is probably legion, and whose names already have become so numerous as to be troublesome. Here we see good has arisen out of evil; for if the price of quinine had not been so high, the researches which have proved so useful might not have been begun even yet.

*Small and Great, Foolish and Wise.*—In looking at another of the greatest advances which medicine has made—namely, the knowledge of infective disease—we can see how enormous results can arise out of very small beginnings, and the safety of nations may be consequent upon a research which many men would have termed useless or even frivolous. I can hardly fancy any better illustration of St. Paul's observation about the foolish things of this world confounding the wise than Pasteur's researches on tartaric acid; for what could seem more foolish to the so-called practical man than the question, "Why does a crystal of tartaric acid sometimes take one shape and sometimes another?" Yet from an attempt to answer this question has arisen the whole of Pasteur's work on fermentation in general, and on that of wine, beer, and vinegar, in particular, whereby he has been able to save millions to his country by accelerating the production of vinegar and preventing the souring of wine and beer. His observation that tartaric acid sometimes turned the ray of polarisation to the right, sometimes to the left; that, indeed, there were two crystals apparently alike, but really different; and that these could be combined so as to form a symmetrical crystal having no power of rotation, led him to look to life and living beings as the source of asymmetry. He tried to produce this asymmetry in salts of tartaric acid by fermentation, and found that during the process an organism developed which eats up the dextro-tartaric acid, and leaves the levo-tartaric acid behind. This led him to investigate such minute organisms, and, by simplifying the soil in

which they grew, and separating the organisms one from another, he learned the conditions of their growth, and showed that most processes of fermentation were due to the presence of living organisms. It is true that while Pasteur was still a boy at school, Peyen and Persoz had shown that the liquefaction of starch and its conversion into sugar was due to diastase, and that Dumas, in a report on a paper by Guérin-Varry, had pointed out that, although unlike diastase, the active principle of the gastric juice had not been isolated, it was probably a ferment of a somewhat similar kind. Dumas classed yeast as a ferment along with diastase, and the fact that such a process as conversion of starch into sugar could be effected without a living organism naturally rendered it all the more difficult for Pasteur to prove his thesis that most fermentations were due to living organisms.

*Chemical and Biological Views of Fermentation.*—The two views of the action of ferments—namely, the chemical and the biological—may, I think, fitly be likened to Pasteur's two kinds of tartaric acid, each by itself being lopsided and incomplete, forming a symmetrical whole only when united. There can be no doubt of the truth of the chemical view that diastase is not a living organism, and yet converts starch into sugar. There can be as little doubt of the biological view that yeast and other organisms which cause fermentation are living bodies, and that without the presence of these living bodies, alcoholic, acetic, and other forms of fermentation would not exist.

*Microbes and Enzymes.*—But recently we have come to recognise that these living organisms may produce their effect by manufacturing chemical ferments, and that these ferments may occasionally do the work, although the organisms which form them may be absent. It is quite true that it is difficult—perhaps impossible—to get fermentation from the dead yeast plant, but we may find a parallel for this in the fact that the pancreas of the higher animals sometimes yields an active ferment and sometimes not. Nor need we wonder that the ferments produced by microbes have but a slight action compared with those of the microbes themselves if we remember how very little power of digestion a dead pig's stomach has as compared with the amount which can be digested not by the live animal itself only, but by the herds of swine consisting of its "fathers and mothers, its brothers and sisters, its cousins and its aunts," during all the term of their natural lives; for in the process of fermentation, microbes are growing, fermenting, and dying with great rapidity, and many generations occur in a fermenting fluid in the space of a few hours, so that the total effect they produce will be out of all proportion to any which can be got from the microbes themselves at a single instant.

*Microbes and Disease.*—From organisms as a cause of fermentation and of the diseases of wine and beer, Pasteur went on to investigate their action as causes of disease in living beings—first in the silkworm, next in the lower animals, and, lastly, in man. He established the dependence of the silkworm disease and of anthrax upon the presence of specific microbes which could be transmitted and communicate the disease, and by destroying the infected eggs of the silkworm he eradicated the disease and restored the silk industry to France.

*Weakening of Disease Germs.*—But while this

investigation is interesting to us as illustrating the probable cause of the disappearance of typhus fever, to which I have already alluded, Pasteur's researches on anthrax are still more important as bearing upon the question of protective inoculation; for he found that the disease germ could be cultivated outside the living body and grown in flasks under varying conditions, some of which were favorable and others unfavorable to its growth. High temperature enfeebled the virus, so that it no longer killed an animal with the same certainty; and by inoculating first with a weak virus and then with one successively stronger and stronger, he found that animals could be completely protected either from inoculation by the strongest virus or by infection from other animals suffering from the actual disease.

*Increase in the Virulence of Disease Germs.*—Another extraordinary fact which he made out was that the virus thus weakened so that it will not kill a guinea-pig a year old, and still less a sheep or ox, may again be rendered most potent by inoculating a feeble animal, such as a guinea-pig a day or two old, from this older and stronger guinea-pig's, the strength of the disease germs increasing with every inoculation, until finally sheep and cows may be killed by it. We can thus see how an epidemic of disease beginning sporadically and attacking weak individuals may gradually acquire such strength as to attack and carry off the strongest.

*Pure Cultures.*—Pasteur's plan of growing disease germs outside the body, in broth, although of the utmost value, did not allow a convenient separation of different germs; but this can now readily be done by Koch's plan of sowing them, not in a liquid medium but on solid gelatine spread on glass plates, so that the growth of the germs can be daily watched under the microscope and inoculations made from single colonies on other plates until pure cultures have been obtained. By thus isolating the different microbes we learn their life-history, the mode in which their growth is influenced by differences of soil, of temperature, of moisture, by the addition of various substances which either favor or retard their growth, and, last but not least, the effect which one microbe has upon another when they are grown together at the same time.

*Struggle for Existence amongst Microbes.*—For even amongst these minute organisms the struggle for existence and the survival of the fittest exists, like that which Darwin pointed out so clearly in the case of higher plants and animals. When two microbes are growing together, one may choke or destroy the other, just as weeds in a garden may choke the flowers, or, on the other hand, successive generations of one microbe may render the soil suitable for another, just as decaying algæ and mosses may furnish mould in which higher plants can grow.

*Struggle for Existence between Microbes and the Organism.*—But it is not merely between different species of microbes or different cells in an organism that this struggle occurs. It takes place also between the disease germs and the cells of the organism which they invade, and the result of the struggle may be determined, not by some powerful agency which weakens or destroys either the organism or the microbe, but by some little thing which simply inclines the scale in favor of one or

the other. Thus, in the potato disease the victory of the invading microbe and the destruction of the potato, or the death of the microbe and the health of the tuber, may depend upon some condition of moisture or possibly of electrical change in the atmosphere which aids the growth of the microbe disproportionately to that of the potato. These atmospheric conditions need not necessarily be antagonistic to the potato, they may even in themselves be advantageous to it; but if they help the microbe more than the plant, the microbe will gain the victory and the plant be destroyed.

*Fight between Cells in Higher Organisms.*—The fight between the organs, which Æsop describes in his fables, actually occurs between the cells in some vertebrate animals, and the schism predicted by St. Paul as the result of such a fight actually takes place. For in the tadpole, at one stage of its existence, some of the cells at the base of the tail begin to eat up others, with the result that schism occurs and the tail falls off.

*Phagocytosis.*—This struggle for existence between the cells of an organism and microbes has been beautifully shown by Metschnikoff in the daphne or water flea, where the process of the cells eating up the microbes, or the microbes destroying the cells, can be actually observed under the microscope. This process of phagocytosis is now regarded by many as only a small part of the struggle between an organism and a microbe, but it is impossible to see one part of a microbe half digested by the cell in which it is imbedded, while the outside part remains unaltered, without believing that the process is one of great importance. At the same time, it seems that the process of phagocytosis, where the microbe and the cells meet in close conflict, bears about the same relationship to the total struggle that a bayonet charge bears to a modern battle. The main part of the fight is really carried on at some distance by deadly weapons, by bullets in the case of the soldier, and by ferments, poisonous albumoses, and alkaloids, on the part of the cells and the microbes. In some of Metschnikoff's observations we can almost see this process for he has figured leucocytes dead, and apparently burst by the action of conidia, lying close to but yet outside them, as if these conidia, like the dragons of fable, had spit out some venom which had destroyed them.

*Venom of Microbes.*—Within the last few years attention has been gradually becoming directed less to microscopical examination of the microbes themselves, and more to chemical investigation of the ferments and poisons which they produce; yet, strangely enough, the very moment when chemistry is becoming more important than ever has been chosen to minimise the teaching of it in medical schools and examination in it by licensing bodies. It is now possible to separate the albumoses and poisons from microbes which produce them either by filtration or by destroying the microbes by graduated heat; for, as a rule, they are destroyed by a lower temperature than the albumose or poisons which they form.

*Microbes and Enzymes.*—As the albumoses produced by microbes are nearly allied, chemically and physiologically, to those formed in the alimentary canal of the higher animals by digestive ferments, it is natural to suppose that microbes, like the higher animals, split up proteids, starches, and



sugars by enzymes, which they secrete, and which in both cases may be obtained apart from the living organisms which produce them; that, in fact, we should be able to isolate from microbes bodies which correspond to pepsin or trypsin, just as we can isolate these from the stomach or pancreas of an animal. In some, although not in all cases, this attempt has succeeded.\*

*Poisonous Albumoses.*—The albumoses produced by microbes resemble those formed during normal digestion in being poisonous when injected directly into the circulation, although they may not be so greatly absorbed from the intestinal canal. One of the most remarkable discoveries in regard to albuminous bodies is the fact that some of them which are perfectly innocuous, and, indeed, probably advantageous to the organism in their own place, become most deadly poisons when they get out of it. Thus the thyroid and thymus glands, which are perfectly harmless and probably useful, were found by Wooldridge, when broken up in water, to yield a proteid which instantaneously coagulated the blood if injected into a vein, so that the animal died as if struck by lightning, while Schmidt-Mühlheim, under Ludwig's direction, found that peptones had an exactly opposite effect, and prevented coagulation altogether.

*Neutralisation of Poisonous Albumoses.*—Perhaps the analogy is too vague, but we seem to find here something very like Pasteur's two kinds of tartaric acid, one rotating polarised light to the right, the other to the left, but, when united together, having no action at all, for here we have two bodies, one of which destroys coagulability entirely, the other increases it enormously; while many albuminous bodies have no action upon coagulation whatever. This view would lead us to suppose that one form of albumose may neutralise the action of another, thus rendering them both completely innocuous, whilst either one or other alone might be a deadly poison. The albumoses formed by microbes appear frequently, if not always, to have a double action, destructive and protective, on the higher animals. Pasteur's treatment of hydrophobia is based on the idea that the spinal cord of rabid animals contains a virus, and its antidote—Koch's tuberculin—may be similar in this respect, and may yet, by suitable alterations, fulfil the hopes of its able and single-minded discoverer.

*Zymogens and Enzymes.*—Perhaps a similar process of splitting up and recombination may explain the formation and disappearance of the enzymes, such as pepsin and trypsin, by which digestion is carried on. The pancreas of a fasting animal will not digest albuminous bodies like fibrin, while the pancreas of an animal killed during full digestion will do so rapidly. Yet the fasting pancreas contains the zymogen, or mother substance, which yields the digestive ferment, and, as Kühne has shown, by treating it first with acid and then with alkali, it becomes active. Again, to recur to the analogy of Pasteur's tartaric acid, we seem to find that the inactive, and possibly symmetrical, albuminous substance of the fasting pancreas is split up by this treatment after death or during the process of digestion in life, and yields the lopsided and active pancreatic ferment. But, if this be so, what

becomes of the other half which has been split off? We do not at present know, but, curiously enough, Lépine has lately shown that while the pancreas is pouring into the digestive canal a ferment which will form sugar, it is at the same time pouring into the circulation another ferment which will destroy sugar.

*Immunity.*—We must be very careful in our speculations and test them by experiment, but such observations as these may tend to throw some light upon the nature of immunity. Immunity is probably a very complex condition, and is not dependent altogether upon any single factor, but we can now understand that if a microbe has gained an entrance into an organism, and produces a proteid or an albumose poisonous to the organism which it enters, it may grow, thrive, and destroy that organism, while the injection of some other proteid which would neutralise the poison might save the animal while the microbe would perish.

*Cure of Anthrax.*—Thus Hankin has found that while a mouse inoculated with anthrax will die within twenty-four hours, a rat resists the poison altogether; but if the mouse after being inoculated with the disease has a few drops of rat's serum injected into it, instead of dying, as it would otherwise certainly do, it survives just like the rat; and from the spleen of the rat Hankin has isolated a proteid which has a similar protective action to that of the serum.

*Cure for Tubercle.*—Working on similar lines, Bernheim and Lépine used the injection of goat's blood in phthisis so as to stop, if possible, the progress of tubercle, and Richet has used the serum of dog's blood, for the goat is quite immune, and the dog is to a great extent, though not entirely, immune from attacks of tuberculosis. The injection of goat's blood in somewhat large quantities has been given up, while dog's and goat's serum in small quantities of 15 to 20 minims at intervals of several days is still under trial.

*Action of Blisters.*—But if immunity can be insured by such slight changes in the organism as a few drops of serum from a rat will produce in the body of a mouse, it is natural to suppose that a similar change might possibly be effected by removing the albuminous substance from one part of the body and introducing it, perhaps after it has undergone slight change, into another. As I have already mentioned, the albumoses of ordinary digestion are poisonous when they are injected into the circulation, and so are the proteid substances obtained from the thyroid and thymus glands. Why then may not the serum of one's own blood, withdrawn from the vessels by a blister and reabsorbed again, be as good as the serum obtained from the blood of an animal? We all know that in many diseases, such as inflammation of the lungs, either pneumonic or tuberculous; in inflammation of serous cavities, such as the pleura, pericardium, and arachnoid; and of solid organs like the liver, or of nerves like the sciatic, the application of blisters is one of the most useful therapeutic means we can employ. In spite of all the changes in medical theory, blisters have always maintained an important place in practice. We have hitherto been in the habit of explaining their action by supposing that they caused derivation of blood from the inflamed part, or reflexly caused the vessels to contract, and lessened the pressure upon the nerves

\*Vide Brunton and Macfadyen, Croonian Lectures on Chemical Structure and Physiological Action, *British Medical Journal*, June 15th, 1889, p. 1336.



of the inflamed tissues. But is quite possible that this may be only a part of the truth, and that the good derived from blisters may be due to this form of treatment being really a form of endemic administration of proteid matters derived, no doubt, from the blood, but altered in their passage from the vessels to the surface of the skin, and thus having an effect upon the body entirely different from what they would have had if they had remained in their ordinary place. It might form an interesting point for investigation, how far the beneficial action of blisters is increased or diminished by leaving the bleb untouched, so that the serum may be re-absorbed, or opening it and allowing the serum to drain away.

*Bleeding.*—It is quite possible, too, that the good effects of bleeding may be due to a similar cause. There can be no doubt that this practice has fallen much into disuse, and I think there can be as little doubt that those who used it in former times were not fools, but were led to use it by the marked relief which in many cases it afforded. Experiments upon animals have shown that withdrawal of blood from the veins causes absorption of proteid matters from the tissues, and these may have an action of their own upon the blood and tissues generally with which they are thus brought into contact. Indeed it is possible that free purgation may be partly due to a similar action.

*Training of Medical Students.*—But the excessively rapid development of medicine and medical sciences requires that men who are entering the profession should not only be taught the things that we know now, but should be so trained as to enable them to keep abreast, more or less, with medical progress. This, I believe, can only be done by giving them a thorough grounding in chemistry, physiology, general pathology, and pharmacology; and this training must be essentially of a practical nature, not only in the way of demonstrations, but of actual work on the part of the student himself. It is, as I have already said, most extraordinary to find that at the time when chemistry is becoming most essential to medicine, some medical boards should so reduce their requirements in the examination on this subject as to render the student's knowledge of it both limited and superficial. But while chemistry may be regarded as at present badly treated, the same cannot be said of histology; and while five-and-twenty years ago comparatively few students possessed a microscope, there is hardly one now who has not only got one at his disposal, but is also able to use it.

The introduction of training in practical physiology, which we owe in great measure to Professors Burdon Sanderson and Michael Foster, has given to the student a basis for his medical studies, such as practical anatomy affords surgery. When I took my degree in medicine I had never looked into an eye or an ear or down a throat; but now we have departments for these specialties, and for others, such as skin and electrical treatment, at most hospitals. I am, unfortunately, unable to give an account of the development of special departments in different hospitals throughout the country, but at St. Bartholomew's there was none for the throat until 1874, when I went to Vienna for six weeks to learn the laryngoscope, and, by the kindness of the Governors, on my return I was provided with everything requisite for opening a special department.

But this department, while I held it, was used almost entirely for the simple treatment of patients; whereas, by my successor, Mr. Butlin, it has been converted into a means for the instruction of students. It is not, however, in this department only that the cases at hospitals are better utilised for instruction. The same thing has gone on in all departments, both general and special, and the change in this respect, which I have noticed in the twenty years during which I have seen out-patients at St. Bartholomew's, has been very great. Everywhere we find men eager to learn, and the desire for knowledge which they show as students they carry with them into practice, where they read and work in a way that makes one frequently astonished that men, the greater part of whose time is taken up in seeing their patients, can manage to keep themselves so well abreast of all the new discoveries. In doing this, great aid has been afforded to men unacquainted with French and German by the abstracts of foreign papers published in medical journals and yearbooks, and especially, perhaps, by the *Medical Record*, now, unfortunately, defunct. Its place, however, has been already filled, and shortly, we hope, will be much more than filled by the *Supplement to the British Medical Journal*. Nor is it only in supplying the members of this Association with an epitome of current literature that the Council have shown both wisdom and liberality, for, by granting aid to scientific research and to the investigation of therapeutic questions, the British Medical Association has shown a far-sighted policy and a most praiseworthy desire not to be content with merely keeping abreast with medical progress, but to push onward in the van and further, by every means in its power, the rapid advance of medical knowledge, which is practically the power of rendering aid to suffering humanity. Nor are the periodical meetings of the members of this Association without advantage, for journals may remain unread, or be laid aside for a convenient season which never comes, but the stimulus of personal contact and interchange of ideas tends greatly to further the object which we all have at heart—the prolongation of life, the preservation of health, the alleviation of pains, and the cure of disease.—*Abstract British Medical Journal.*

## PRESIDENT'S ADDRESS

DELIVERED AT THE

FIFTY-NINTH ANNUAL MEETING OF THE  
BRITISH MEDICAL ASSOCIATION,

By J. ROBERTS THOMSON, M.D., F.R.C.P.,

Consulting Physician to the Royal Victoria Hospital  
and to the National Sanatorium for Consumption, Bournemouth.

My first duty—in the name of the Dorset and West Hants Branch of the Association, in the name of the local members of the profession, in the name of the Corporation of Bournemouth, and in the name of my fellow-townsmen—is to bid you all a very hearty welcome, and to express the hope that, favored by Bournemouth weather, your sojourn here may be a very enjoyable one; that you may obtain refreshment and strength from our health-giving breezes; and that you may thus carry away pleasant memories of your visit to this delightful neighborhood.

The place in which you find yourselves would not, a few years ago, have been large enough for the annual meeting of our Association. The history of Bournemouth does not go back into the dim and distant past. There are those among us, by no means very advanced in years, who can remember when it was little more than a village, and when the nearest station—then called Christchurch Road, now Holmsley—was twelve miles off. Now we are within two hours and a half of London, and three lines of rail find a terminus here. By one route you may travel to Birmingham, York, Bradford, without change of carriage; by another, Shrewsbury, Chester, even Birkenhead may be reached without leaving the carriage in which you began your journey. Comparatively, a few years ago, it was but a tiny place, now the population of the borough and the immediately surrounding district exceeds 40,000. What are the causes which have brought about this large increase? The answer is threefold:

1. The medical results of residence during the winter and spring months in Bournemouth have been so satisfactory that invalids have returned here winter after winter, and have brought their friends.

2. The discovery which people have made for themselves, that, though a mild winter climate, it is also a delightful summer climate, and thus we have had a steadily progressive summer season.

3. That care has been taken to preserve, and when possible to improve, the natural advantages of the district.

Did time allow, or were this the fitting place, there is much that could be said upon each point in this threefold answer. With regard to the second and third points, I will not detain you. Suffice it to say that for our summer visitors—be they invalids seeking health, or persons jaded and overdone, seeking restoration of strength or refreshment only—much is done in the way of catering for their recreation and amusement. A fine fleet of steamers daily provides charming sails of much variety, while an endless diversity of drives is offered to those who prefer land excursions, and who do not care "to go down to the sea in ships."

For the geologist there are many attractions, both physiographical and palæontological. The Portland and Purbeck Beds are close at hand, to the west, while the famous Barton Beds are within easy reach to the eastward.

For the botanist, within the compass of a day's excursion, either on the heaths and moorlands in the fertile valleys of the Stour and Avon, or in the New Forest, rich and interesting fields of investigation are to be found.

For the antiquary there are a great variety of objects of interest, Badbury Rings, an old British encampment, and Maiden Castle, one of the most perfect and most elaborately fortified early British camps, are within no great distance. Corfe Castle stands pre-eminent amongst the castles of Great Britain as a grand and noble example of mediæval military architecture, although it is chiefly noticed in history as a State prison. The incident which has most contributed to the notoriety of Corfe is the murder of King Edward the Martyr, but this is associated with the spot only, and not with the fortress as we now see it, for the event took place before the existing castle was erected. We have,

in connection with Corfe Castle the earliest record, so far as I know, of a London consultation in these parts. In the reign of King Henry III., Master John de Beauchamp was sent from London to see a princess who was ill. His journey was probably a hurried one, and, the distance being long, the palfrey on which the doctor rode seems to have been overworked, for it died on its way back to London. The Treasurer and Chamberlains of the Exchequer were ordered to pay to its master out of the King's treasury 3 marks (£2) in compensation. Nags were either very cheap in those days, or else the King's physician was content to ride a very second-rate animal. A consultant from London visits us under somewhat more favorable circumstances nowadays.

For those who love ecclesiastical architecture, the Priory Church of Christchurch is only five miles off, and the Minster of Wimborne may be reached in little over half an hour.

But I may be pardoned if I dwell for a few sentences on the purely medical aspect of the subject. It will, I trust, prove of interest to you, and may also, I venture to think, be useful.

As a winter resort for the phthisical patient, and for all those invalids whose vitality gets lowered by confinement to the house, Bournemouth offers many advantages. There are many to whom a journey is an impossibility, or who dislike the separation from home and friends which going, say, to the Riviera involves. They do not escape an English winter by coming here, but they will get the driest climate which England has to offer, and they will thus be able to get a large amount of out-door exercise.

In the summer we have a beach available at all times for bathing, shade to an extent which can seldom be found at the seaside—where is there a seaside resort in England with more trees?—and the climate, because of the dryness, not relaxing; also, as the result of being in a bay, we always have a breeze in warm weather.

Persons must not, of course, expect too much. They sometimes speak as if they anticipated a subtropical climate 100 miles south of London, and as if they were prepared to find that our woods consisted of palm trees and cocoanuts. They have not left England, and so must be prepared for the uncertainties of an English climate. But they will find these modified in a marvellous way by local causes, and will obtain medical results from residence here not inferior to what may be got by journeys much further afield. They will also avoid the discomforts and disadvantages which result therefrom.—*Abstract Brit. Med. Jour.*

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BANANAS IN CHRONIC BRONCHITIS.—In cases of chronic bronchitis with difficult breathing and scanty expectoration, the use of banana-juice has been highly praised. The juice is prepared by cutting up the bananas in small pieces and putting them, with plenty of sugar, in a closed glass jar. The latter is then placed in cold water, which is gradually made to boil. When the boiling-point is reached the process is complete. Of the syrup so made a teaspoonful every hour is the proper dose.—*Med. Rec.*



## Selections.

AN EASY AND EFFECTUAL METHOD OF PLUGGING FOR EPISTAXIS.—A piece of old, soft, thin cotton, oiled silk, or silk, about 6 inches square—a piece of an old handkerchief will answer—is taken, and by means of a probe, metal thermometer case, or penholder, is pushed, “umbrella” fashion, into the nostril, the direction of pressure, when the patient is sitting erect, being backwards and slightly downwards. It is pushed on until it is felt that the point of the “umbrella” is well into the cavity of the nasopharynx.

The thermometer case is now pushed on in an upward direction and then towards the sides, so as to push more of the “umbrella” into the pharynx, and is then withdrawn. The closed end of the sac protrudes well into the pharynx, and its open end protrudes at the anterior nares. The inside of the sac may be brushed with some astringent, such as alum, turpentine, etc.

A considerable quantity of cotton wool is pushed well back to the bottom of the sac in the pharynx. Then, the thermometer case being held well against the packed wool, the mouth of the sac is pulled upon, and thus its bottom is drawn forward, and forms a firm, hard plug wedged into the posterior nares. The sac may now be packed full of cotton wool, dry or soaked in some astringent solution. The mouth of the sac is tied just outside the nostril, trimmed with scissors, and the ends of the thread secured outside.

It might be suggested to oil the cotton or silk, but I have never found any difficulty without the oil, as the blood renders the material wet and easy of introduction; while the oil does not facilitate removal, and may modify the effect of any hæmostatic employed.

In removing the plug, open the mouth of the sac, and, with small dressing forceps, gently remove the cotton wool bit by bit. If there is bleeding, simply syringe the sac with weak carbolic lotion or Condy's fluid, and repack with clean cotton wool. If there is no bleeding when the wool is picked out, gently pull out the sac; or if it be adhering to the mucous membrane of the nostril, apply a little warm water, and it may then easily be removed.

There are many advantages in this method: (a) It is easy, quickly accomplished, and effectual, and the materials used are to be found in every house, and, indeed, about everybody's person (I have plugged in this manner, simply using a handkerchief, one part of which was used as the sac, and the other torn into narrow strips, in place of cotton wool); (b) no damage is done to the floor of the nose or back of soft palate by strings, etc.; (c) no disagreeable hawking, coughing, or vomiting takes place during introduction; (d) no disagreeable strings are left hanging inside the mouth causing coughing and vomiting; (e) the plug can be removed without any force, so that no damage is done to the mucous membrane, and no return of hemorrhage caused.

I employed this method frequently when in country practice and do so now in bleeding after operation on the nares, and have always found it to be satisfactory.—*A. A. Philip, M.B., C.M. Aberdeen, in Brit. Med. Jour.*

“TESTS FOR ALBUMIN” was the title of a paper read by Dr. William B. Davis, of Cincinnati, at the meeting of the Ohio State Medical Society. He said: Among the equipments required of the physician of to-day is that of making a thorough examination of the urine. In the United States albuminuria has been found to prevail in from ten to twenty per cent. of all persons examined; in Great Britain and Europe larger percentages have been found, Professor Grainger Stewart having demonstrated its presence in nearly one-third of the population. Professor Senator, of Berlin, states in his recent work that forty-one out of every one hundred healthy individuals, particularly soldiers, have albuminuria.

Of late years there has been a great multiplication of tests for the discovery of albumin in the urine. Posner's test, as published by Senator in his late work, is this: “Add to the filtered urine three times its volume of alcohol or a concentrated aqueous solution of tannin, wash out the precipitate with water, and then dissolve with acetic acid; or add a large quantity of acetic acid to the urine, and then evaporate in order to concentrate the urine. In both cases in the acetic acid solution, all the tests for albumin which are not influenced by the acetic acid will give a positive result.” There is no doubt



that some of the tests recently introduced are useless, others misleading, and some are very difficult of application. In order that there may be uniformity in our investigations, there should be an agreement by chemists and the medical officers of life assurance companies upon certain tests for albumin in the urine which shall be recognized as standard.

Dr. Davis here quoted a number of authorities who gave different tests for albumin, and from all the testimony he concluded that the familiar tests of heat and nitric acid were the most popular, the best, and most reliable reagents for the detection of albumin in the urine. Prof. Vaughan, of the University of Michigan, wrote him that he thought the only tests which distinguished the albumins from the albuminoses and peptones were the nitric-acid and heat tests, the nitric-acid contact test, and acetic-acid and potassium-ferrocyanide test.

The author concludes, however, that the refinement of our chemical tests, and the fact that some of them give reactions with other proteids than serum-albumin, do not account for the wide discrepancy between the American and Continental reports of the prevalence of albuminuria in persons otherwise healthy.—*Med. Rec.*

TREATMENT OF PRURITUS ANI AND VULVE.  
—The best method of treatment for this exceedingly unpleasant condition is this, viz.: Cleanse the vagina thoroughly every day with a spray or douche (the spray is better) with a solution of peroxide of hydrogen, one part to three of pure water. (It may be sprayed very thoroughly in the Sims' position and dried with absorbent cotton. At the same time the upper part of the vulva can be cleansed in the same way and dried. Then the whole vagina and vulva should be dusted with Squibb's pure boracic acid in fine powder. The whole external surface of the genitals and anus is to be cleansed in the same manner with the spray, dried and dusted with the powdered boracic acid. Under no circumstances should the parts be washed with soap.) After this a thin layer of absorbent cotton, which has been dusted with the same powder, is to be placed between the folds of the labia majora and between the folds of the buttocks close to the anus and perineum,

the object being to prevent contact of the two irritated surfaces. These pieces of cotton should be removed as soon as they become in the least moist and replaced by fresh pieces.

By manipulating the blade of the speculum, the posterior vaginal wall can be as perfectly cleansed as any other portion of the vagina. And it can be dusted as the speculum is withdrawn.

Though this will effectually relieve the pruritus, it may not prevent its return and is powerless to produce a cure of the condition which produces it. Pruritus of the anus may be caused by rectal disease or from the discharge of the fistula, or it may be produced by a discharge from the vagina, in which case the vulva will be similarly affected. It is most frequently found in pregnant women where there is an old endometritis and where there is extensive erosion of the cervix. In pregnant women a few applications to the cervix of Churchill's tinct. of iodine (this should be five times the strength of the ordinary tincture) every third day, and a douche twice a day of a solution of creolin, will frequently produce a prompt cure.—*Archives of Gynecology, etc.*

INHALATIONS IN THE TREATMENT OF PHTHISIS.—The results of this method have not been commensurate with the expectations excited by it. Several potent objections have been urged against the method. First, it has been denied that the various antiseptic and germicide agents applied by inhalation succeed even in reaching the seat of the disease, viz., the sub-mucous tissue of the bronchial mucous-membrane—but are arrested often in the pharynx, oftener still in the larynx. Even assuming that the medicated atmosphere produced by one of the ordinary inhalers really reaches the seat of the disease, its impregnation with carbolic acid, creasote, thymol, or other such agent, is so exceedingly feeble as to leave no solid ground for anticipating serious benefit from its use. Further, many authorities urge that if the phthisical patient be taught to rely upon inhalations, the inevitable result will be a life of indoor invalidism and a constant tinkering with his inhalers—a mode of existence sure to effect an amount of mischief more than sufficient to counterbalance the problematical advantages of inhalation.

Professor Germain-See has sought to overcome the first objection, viz., the failure of medicated atmosphere to reach the actual seat of the disease. The method recommended by Germain-See is as follows: The patient is shut up in a metal chamber, hermetically closed, and compressed air passed through creasote and eucalyptol is made to enter slowly. The air in passing through these liquids is saturated, and arrives charged with a large quantity of these medicaments. The pressure must be slowly increased, and should not exceed a half-atmosphere. The speed of delivery of the air saturated with the medicated vapors is from fifteen to twenty cubic metres per hour for a space of five cubic metres of capacity. The patient usually remains in the chamber two hours, sometimes three or more, and no inconvenience ensues as the result of this procedure. The inhalations are made daily, or more frequently.

Germain-See has tried this method in twelve cases, of which one was apical bronchitis, a second foetid bronchitis, and the remaining ten genuine tubercular phthisis—all of which, with one exception, had arrived at the stage of softening. The results were surprising, a marked amelioration being in most cases observable, not only in the amount and character of the expectoration, but in the general constitutional condition, and in some cases, though not in all, a corresponding improvement in physical signs. Contrary to what might seem probable, hæmoptysis was not only excited, but seemed controlled by this mode of treatment, and the appetite and digestion were improved rather than otherwise. Hectic fever was also diminished. Naturally, the least improvement was manifested in the physical signs, but Germain-See is inclined to hope that by this new method the disease, if not cured, may be at least arrested, and further progress prevented. Benefit was obtained in some cases in a fortnight, in others the treatment was kept up for three months.

It is hardly necessary to emphasize the necessity for extreme caution in admitting the claims of any new alleged remedy for tuberculosis, and the evidence in the present case, although interesting, falls far short of demonstration. One benefit, somewhat negative in character, may even now be derived from Germain-See's

researches, viz., the realization of the utter futility of the methods of inhalation so long adopted, and the uselessness of the inhalers now commonly employed. If inhalation is ever to become a valuable agent in therapeutics, it will probably be by the adoption of some plan analogous, and, according to our present knowledge, the most hopeful medicament with which to experiment would seem to be creasote.—*N. Y. Medical Journal.*

THE TREATMENT OF CHRONIC OVARITIS.—Many of the cases treated by abdominal section are not much, if at all, improved. The cases cured are those operated on when near the menopause; those improved are generally such as have suffered from complicating affections; for example, dysmenorrhœa; while the unimproved are the younger subjects in whom the disease was uncomplicated. The indications for treatment are both general and local. The indications for general treatment are to lessen the blood supply and relieve pain by correcting the deranged innervation. This, in the early stage, demands rest in the recumbent position. At the same time general exercise should be advised, either by massage or by gymnastics in the reclining position. The condition of the digestive organs should be carefully watched and relieved by small doses of mercury and a laxative. The saline laxatives are the best. To relieve pain and lessen the hyperæmia, the bromide of sodium and fluid extract of *hydrastis canadensis* are by far the most potential agents; they are given in combination—twenty to thirty grains of the bromide and ten to twenty minims of the *hydrastis*, three times a day, until the physiological effects of the bromide are noticed in a mild degree.

Sometimes the bromide fails, even in larger doses, to relieve the menstrual pain. In this case ten grains of salicylate of sodium and five of antipyrin, given between meals, answer for some time; others, more especially those markedly debilitated, do better on full doses of aromatic spirits of ammonia, camphor, and chloric ether, with small doses of cannabis indica. In the unmarried, local treatment should be avoided. Hot sitz-baths, counter-irritation, and hot vaginal douches comprise about all that should be employed in young women. In married women

any complicating disease should be treated locally. In addition, applications which will relieve the tender and hyperæmic ovaries are applicable. A small tampon, saturated with equal parts of tincture of belladonna and glycerine, applied behind the cervix and permitted to remain forty-eight hours, is useful, and after its removal a hot douche. These are continued for five days, and are followed by an application of tincture of iodine to the vaginal vault. Good effect has been obtained from the sulphichthylate of ammonium, five parts in ninety-five of glycerine, applied in the same way as the belladonna and glycerine. The general and local treatment thus briefly outlined gives relief to the more pronounced symptoms. The pain becomes less and also the tenderness. The general health improves and the pelvic congestion subsides. From this point tonics and laxatives may still be required, but alteratives are also indicated. Iodine and mercury are the chief agents. Small doses of bichloride of mercury, with chloride of iron, when iron is indicated, followed by syrup of the iodide of iron, in doses as large as can be borne, may be administered. These can only be used when the bromides are given up. In place of the bromides, sulphonal is of great value to promote sleep. The treatment is necessarily a long-continued one and requires patience and careful watching.—*Skene, in Med. News.*

THE NUTRITIVE VALUE OF RECTAL INJECTIONS OF EGG ALBUMEN.—The assertions of Voit and Bauer and Eichhorst, that egg albumen is absorbed by the rectum only in the presence of a certain proportion of chloride of sodium, but is returned unaltered with the fæces if this reagent be absent, had led Huber to investigate this point anew, and to make his observations on man, and not on dogs, as his predecessors had done. The experiments were planned with great care, and the quantity of albumen removed from the body, both by the urine and the fæces, was estimated. As the outcome of several series of experiments, the results of which show a great agreement, the author concludes that egg albumen simply beaten up is absorbed by the rectum, but only in very small quantities, and consequently a nutritive enema of this kind possesses hardly any

value. When, however, a certain amount of common salt is added (15 grains to each egg in the present series of experiments), the quantity of albumen absorbed is doubled. Peptonized egg albumen was absorbed in very slightly greater proportion than that treated with common salt; but of peptonized albumen with salt between sixty and seventy per cent. was absorbed, and we, therefore, have in this mixture an extremely valuable material for nutritive enemata. In no case of Huber's were the enemata expelled; nor was albuminuria ever found to occur after their use.—*Med. and Surg. Reporter.*

PUERPERAL FEVER.—Dr. Dorr (*Archives of Gynecology*, May, 1891) does not place much confidence in the curette and irrigation with sublimate. He prefers cleansing the uterine cavity with iodine. Although that elementary substance is not the most powerful germicide, its wide range of curative powers in removing products of inflammation and healing sores makes it preferable for application to the uterus in these cases. Iodine suppositories are not always satisfactory. Dr. Dorr prefers the simple vaginal wash and compound tincture of iodine, 1 drachm to the pint of water, the irrigation being repeated every six or eight hours. When, however, the symptoms of fever persist, notwithstanding irrigation of the uterus and antipyretics, a small incision should be made into the abdomen, just wide enough to pass in two fingers, which should be rapidly passed into the sides of the abdominal cavity. Then a good stream of warm boracic lotion must be introduced through a tube and allowed to run in by means of a siphon apparatus, so that the abdominal cavity is thoroughly washed out.—*Brit. Med. Jour.*

HOW TO KEEP NEEDLES FROM RUSTING.—Dr. Dawbarn, in the *New York Medical Journal*, says: "For the past year I have been pleased with the results of a new plan—new to me, that is, though very probably not to others. This is simply to keep my needles in alcohol. For extreme safety against rust I use absolute alcohol; but the commercial article would probably be efficient. At least, some needles that I have kept in common alcohol for a month as an



experiment are as bright as ever. Upon buying the needles I immerse them in benzine to remove grease. Then, after running them through a towel, I plunge the point (a cutting-edge Hagedorn) into a bit of cork the size of a pea—to avoid dulling from jolting—and finally, with their corks, they are put and kept in a wide-mouthed, glass-stoppered bottle filled with absolute alcohol. After use, I sew through a thick, wet, soapy towel repeatedly, cleanse the eye with a thread, immerse in benzine, and finally replace in the alcohol. This last is certainly an efficient disinfectant, besides being an excellent protector against rust. By the bye, I long ago gave up using (save in bowel work) any other than Hagedorn self-threading needles, which are a decided comfort, and, when properly made, do not cut the thread."

RECTAL SALINE INJECTIONS FOR ACUTE ANÆMIA.—Herr and Haussmann (*Centralblatt für Gesamte Therapie*, H. 5, 1890) report the successful employment of rectal injections of one-half per cent. lukewarm salt water in a case severe hemorrhage from premature detachment of the placenta. The loss of blood continued throughout a difficult version and extraction, and after delivery the mother was in a condition of collapse, the pulse barely perceptible, and the superficial veins of the arm empty. The patient did not react, although subcutaneous injections of camphor, ether, and internal stimulants, together with massage of the uterus, had been used vigorously. Transfusion and subcutaneous injection of the saline solution were impracticable, and about two quarts of the fluid were introduced into the rectum and the pelvis elevated. The injection was repeated later, and soon after the pulse could be felt feebly returning. The following day the patient's condition had improved considerably, and convalescence was soon established.—*Univ. Med. Mag.*

FEL BOVIS INSPISSATUM.—Porter (*Medical News*) writes very suggestively concerning the value of inspissated ox-gall in all functional derangements of the digestive and hepatic systems. When taken into the stomach, in doses of two to five grains in capsule, this agent is said to temporarily retard the flow of hydrochloric acid and to stimulate a more copious

discharge of a more active milk-curdling ferment and an improved pepsin. A certain amount of the bile, which passes on into the intestine, there aids in the diastatic and peptonizing actions, which are complete at this point, prevents putrefaction, stimulates the intestinal secretions, and acts as a natural stimulant to the muscular coat of the whole intestinal tract. Finally, when conveyed to the liver, it is partly converted into new and healthy bile, and partly aids in the vital processes carried on by the protoplasm of the hepatic cells. In the light of this knowledge, the author believes that ox-gall becomes one of the most potent physiological antipyretics at command. Its use in typhoid fever is commended as rational and successful; and, in as many as fifty observed cases, the duration of the disease thus treated has been shorter, and the attack milder, as compared with many cases previously observed.—*Univ. Med. Mag.*

THE INFLUENCE OF SMOKING ON PHYSICAL DEVELOPMENT.—From the records of the senior classes of Yale College during the past eight years, the non-smokers are proved to have decidedly gained over the smokers in height, weight, and lung-capacity. All candidates for the crews and other athletic sports were non-smokers. The non-smokers were 20 per cent. taller than the smokers, 25 per cent. heavier, and had 66 per cent. more lung-capacity. In the graduating class of Amherst College of the present year, those not using tobacco have in weight gained 24 per cent. over those using tobacco, in height 37 per cent., in chest-girth 42 per cent., while they have a greater average lung-capacity by 8.36 cubic inches.—*Med. News.*

PYOKTANIN IN CANCER.—Dr. V. Sehlen (*Monats f. prakt. Derm.*, June, 1891, p. 515) describes the case of a man, 70 years of age, who was the subject of an ulcerating carcinomatous tumor on the right cheek. After treating him without result by resorcin plasters, etc., the author applied pyoktanin in substance, which at first caused so much pain that cocaine-antipyrin compresses were used before the application. Within five days secretion had diminished and the ulcer was flatter, cicatrization eventually taking place.—*Brit. Med. Jour.*

THE  
Canadian Practitioner

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TORONTO, SEPTEMBER 16, 1891.

### A USEFUL CHARITY.

On Saturday, September 5th, an interesting ceremony took place at the Lakeside Home for Little Children, when the donor of the institution, Mr. J. Ross Robertson, formally handed over the title deeds of the property to the trustees of the Victoria Hospital for Sick Children. Toronto is specially favored by the existence of two such noble charities as the Hospital, which is about to be opened on College street, and the Lakeside Home, which was formally presented to the trustees on Saturday. It has been stated that in the Lakeside Home for Little Children this city probably possesses the finest sanitarium for children on the continent. The building is three stories high, and has on all sides large open verandahs, which open off each of the wards; the plumbing, the arrangements for heating, and the provision for thorough ventilation are all adequate; and the promoter of the charity, who has visited and made a study of many of the modern hospitals in this country and in Europe, has made use of his extensive knowledge in providing for the Lakeside Home the most complete equipment in every respect. There is an operating theatre and a good dispensary, whilst for healthful recreation, as well as for special treatment, a gymnasium is provided. In addition there is a play-room for children, where those who are sufficiently well may amuse themselves. The verandahs and wards are so arranged that the cots can be readily wheeled from the one to the other without disturbing the patients. Isolation wards are situated on the third floor and infectious cases are there kept apart from the general wards. The

kitchen and laundry are in a partially detached building at the back. The different parts of the building are connected by telephone communication and electric bells. The institution is capable of accommodating 160 patients, and has provision for 20 nurses and a resident medical officer. A large amount of money has been spent in levelling and sodding the grounds about the building. The house is situated on the south shore of the Island within two hundred yards of the shore of Lake Ontario; a more suitable spot could hardly be found for a convalescent home. This institution, equipped as it is, will probably serve for more than a mere hospital for convalescent patients; there is in it provision for skilled nursing and medical attendance, so that the most serious medical and surgical cases may be treated there. It is the custom in most convalescent homes with which we are acquainted to send patients from hospitals after they have sufficiently recovered to make them to some extent independent of the nurse and the doctor. Whilst fresh air and healthful surroundings are of undoubted benefit in hastening convalescence, yet it is highly desirable that during the summer months patients, in whatever stage of disease, should benefit by pure air and sunlight; this is all provided for in the Lakeside Home in a way which would be quite impossible in a hospital within the city limits. A noteworthy feature in connection with the Home is that it is worked in conjunction with the Victoria Hospital for Sick Children. This is a great boon to the latter institution. Anyone who has been connected with a children's hospital appreciates the difficulty of providing suitable quarters for convalescent patients during the hot summer months. This difficulty will not present itself to the managers of the hospital in Toronto, as more than adequate accommodation is provided in the Lakeside Home.

### INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

The Seventh International Congress of Hygiene and Demography was held in London last month. The meeting was a very successful one. Scientists from varied fields of work met and discussed subjects which have a widespread interest, not only to all medical men, but more

particularly to sanitarians and those engaged in the public health departments of large towns and cities. His Royal Highness the Prince of Wales, as President of the Congress, delivered the inaugural address. The direct patronage of Her Majesty the Queen, and the part played in the proceedings by the Corporation of the City of London, by greeting the members of the Congress in its Guildhall, gave evidence of the acknowledged importance of the meeting of the Congress. The leading corporations of Great Britain were represented, and a number of colonial delegates were present. The multiplicity of subjects dealt with and the ground covered in the discussions were enormous. The views expressed by eminent sanitary authorities, in their papers and during discussion, have, in most instances, been the outcome of widespread experience in different countries and under most varied conditions. The proceedings of the meeting must necessarily have a great influence in advancing scientific work, and the papers published will be eagerly read by those interested in the subjects dealt with. A paper read as an introduction to a discussion on "Tuberculosis in all its Aspects," by Dr. J. Burdon Sanderson, is one of great interest. Sir Joseph Fayrer, in his presidential address in the Section of Preventive Medicine, contrasts the state of England, with its population of more than 29,000,000 during the Victorian age, with the England of the Elizabethan age, with its 4,000,000. At the present time we find great improvements in the mode of living, the result is that the death-rate is considerably reduced and the expectancy of life enhanced. The Section of Bacteriology was presided over by Sir Joseph Lister. The hygiene of infancy, childhood, and school life, was a subject of deep practical interest, and the discussions afforded many practical suggestions. The spread of diphtheria, and the methods of preventing it, was exhaustively discussed. A special section dealt with naval and military hygiene, and another with state hygiene. Among other subjects discussed of special interest might be mentioned "Cancer as an Infective Disease," and "Psorospermosis as a Possible Cause of Epithelial Tumors." It is impossible in these columns to reproduce at length the proceedings of the Congress, but we merely wish to partially indi-

cate the ground covered. Those who are interested in the subjects discussed before the Congress will find in *Public Health*, the official organ of the Congress, special reports of the meetings and discussions.

#### "COUVADE," OR MALE CHILD-BED.

Couvade means a custom according to which after a child is born the father goes to bed and acts as if he had passed through the pangs of labor, while the mother gets up, attends to her ordinary household duties, and perhaps looks after her sick husband. An interesting paper on the subject was recently communicated by Mr. H. Ling Roth to the British Medical Association at Cardiff.

The *Journal*, in commenting on the subject, says: "The custom is met with in Europe, Asia, Africa, and mostly in America. In the West Indies and in South America to this day travellers frequently come across it as a living custom. In Australia it is unknown. It is mostly found amongst people who live in isolated districts and who appear to have been driven from more fruitful lands. It is not found amongst the lowest class of savages nor amongst the highly civilized. Comparisons between the state of the large continents do not explain the causes of its distribution, but an ethnological examination will probably explain it. Quatrefages divides mankind into five great races, namely, black, yellow, white, mixed Oceanic, and American. Couvade is not found to exist in Australia. The reasons for the custom given by the people themselves and the explanations given by anthropologists and travellers are all equally unsatisfactory. Bachofen's original theory that the custom indicates the turning point in society from the maternal to the paternal finds new support at the present day. The apparent soundness of this theory is most convincing. But if it be correct, why is the custom not found in Australia, where the great society change is going on at the present day? Mr. Thurnim suggests that we should compare the custom to those apparently allied to it, and so get at its origin. The custom as practised by savages shows that the savage believes that there is some hidden link which binds the newborn child to its father. Many curious beliefs are met with among the



uncivilized showing similar belief in occult links, or bonds, or lines of force. These forms of belief are usually described under the general heading of witchcraft. Similarly in the custom of couvade the action of the father is to avoid bewitching his child, so that the custom is an example of an aberrant form of reasoning, and it shows how man may err in his striving after knowledge. We have many examples of this in our nurseries."

## Meeting of Medical Societies.

### PATHOLOGICAL SOCIETY OF TORONTO.

Annual meeting, May 30th, 1891.

The society met in the Biological Department, the President, Dr. J. E. Graham, in the chair.

#### CARCINOMA OF THE STOMACH.

Dr. W. J. Greig presented a specimen and read the following history :

D.S., æt. 39 years. Occupation, dentist. Height, 5 feet, 6 inches ; probable weight, 125 pounds.

*Family History.*—Mother alive, and in good health. Father died of heart disease, but suffered from indigestion. All the brothers are alive and well. One sister not in good health, but no cancer is suspected. No history of cancer in any branch of the family.

*Previous History.*—Had suffered from indigestion at intervals the most of his life. Between the ages of twenty and twenty-five years had frequent vomiting spells, but after marriage, owing to plainer food, this symptom was relieved. But he very frequently suffered from attacks of what was supposed to be purely functional indigestion.

*Present Illness.*—This began in October or November, 1890, with an increase of the dyspeptic symptoms, due, it was supposed, to a closer application to business. He suffered from pain and distention after eating, vomiting, foul eructations, and tenderness in the epigastrium, but had a good appetite.

Condition when first seen, April 24th, 1891 : Increased liver dullness in right side. In the mid line, dullness normal, reaching a point half way between the base of the sternum and

the umbilicus. No dullness in left side. Epigastric tenderness; a small nodule, the size of a marble, was felt in epigastrium, with three or four smaller ones surrounding it. No elevated temperature; pulse 90; tongue, furred; bowels normal; lungs and heart normal; urine loaded with lithates. After filtration, albumen was found, but no casts. Vomited matter was very acid, but had no characteristic appearances. Complexion sallow; and while suggestive of the cancerous cachexia, was by no means typical. At this time the stomach digestion appears to have been almost *nil*, the patient stating that a raw oyster would be returned twenty-four hours after ingestion unaltered. His great complaint was that food would not pass on from the stomach, but would lie there for hours, causing him distress.

*Condition before Death.*—May 28th, 1891: Liver dullness had increased, especially in the mid line of the body, reaching two inches below the umbilicus, also extending to the left side. Epigastric nodules had increased in size, and new ones had made their appearance. No elevation of temperature. Pulse varying from 100 to 160. Bowels acting very well considering the amount of food he was able to take. Lungs and heart still normal, excepting the weaker cardiac action. Vomited matter the same. On only two occasions was there any blood, and then simply a trace. Once my attention was called to a piece of flesh the size of a bean, and resembling organized lymph, in the vomit. Slightly jaundiced. Very much emaciated. Patient died on the morning of the 29th.

*Post Mortem.*—Emaciation very great. All the subcutaneous fat had disappeared. Abdomen full of a blood-stained serum. Liver enormously enlarged, and fully three-quarters of the liver structure was supplanted by cancer tissue, which broke down easily under the finger. The nodules felt in the epigastrium before death were in the left lobe of liver, and were small round cancer growths. Gall bladder was full, but apparently no obstruction to the flow of bile. Stomach: The pyloric end of this organ was a mass of scirrhus cancer. It completely encircled the stomach, and extended to, if it did not include, the pylorus. The mass was thicker on the lesser curvature, where apparently it had originated, and extended in a circular di-

rection, until it completely surrounded the viscus. The cardiac end was free from disease, and the space there would have held half a pint of fluid. The mucous membrane of this part was congested, while that of the pyloric end was supplanted by a huge ulcer. The passage from the cardiac end through the cancerous mass to the duodenum must have been very small. Spleen was atrophied, and kidneys small and congested. No further examination was made of the body. One abdominal gland was found enlarged and cancerous.

*Interesting Points.*—No family history of cancer. Notwithstanding the extensive distention of the liver present, there was no jaundice until two or three days before death. Although the cancerous portion of the stomach was a mass of ulceration, there was no coffee-ground vomiting, properly so-called. On only two occasions was there any trace of blood. It would be interesting to know the relation of the cancer to the attacks of indigestion for the last fifteen years; whether these continually recurring attacks of functional indigestion were sufficient to cause the cancer by irritation, as some authorities claim; or whether it is necessary to fall back on Cohnheim's hypothesis of misplaced embryonic cells acted on by an irritant; but we feel safe in stating that, granting the presence of the embryonic cells, yet, if the irritation had been absent, the cancer would not have developed.

Dr. Fenwick, of the London Hospital, states that cancer may and does occur in men hitherto perfectly healthy, and who have never suffered from indigestion. This, however, we believe to be contrary to the experience of most medical men, and is contrary to the accepted opinions of the day, unless we grant that normal digestion produces irritation, or that an indigestion not sufficient to cause trouble had been present for some time before the occurrence of symptoms pointing to cancer.

Dr. McPhedran said the unaffected part of the stomach would likely show atrophy of the gastric tubules, and so one would expect apepsia. He thinks that dyspepsia has nothing to do with the etiology of cancer of the stomach, for there are as many cases of cancer without a history of indigestion as with it. The condition of the gastric glands shows the difference between simple and malignant ulceration. Some cases

have been reported of very long duration—one of fifteen years. In chronic cases, where there is a good deal of fibrosis, one would expect but little hemorrhage.

Dr. Ferguson related the history of a case with continuous dyspeptic symptoms for ten years, becoming progressively worse, but with no hemorrhage, and dying of cancer of the stomach.

Dr. Graham suggested that these slow cases might be of a nature similar to rodent ulcer of the skin.

Dr. Oldright thought the cancer might not exist from the first, but might be developed towards the end in a course of long dyspeptic symptoms.

Slough separated from a mammary cancer after application of arsenical paste, followed by poulticing: This specimen was presented by Dr. Oldright. The patient said she had been using a cancer paste and then a poultice, and that this large slough had separated.

#### MICROSCOPICAL SPECIMENS.

Dr. Acheson presented (1) slides of diphtheritic membrane from a case of pharyngeal diphtheria, stained with an alkaline solution of methylene-blue, and showing the Klebs-Löffler bacillus, together with the other micro-organisms usually found in such membranes: also plate cultures on glycerine agar, and tube cultures on solidified blood serum. He considered the only positive test for diphtheria was finding the Klebs-Löffler bacillus in the pseudo-membrane. It could be readily distinguished by its bent club-shaped end, especially after staining. (2) Sections of a tumor of the spinal cord, from a case where there had been paraplegia for four years. The diagnosis of tumor, probably a fibroma, had been made by Dr. Graham; and the vertebral canal had been opened by Dr. Cameron, with the result that a tumor was found growing from the inner surface of the dura mater, and removed. The tumor proved to be composed of fibrous tissue, containing numerous dilated blood channels, and, in places, a dark pigment, composed of variously sized granules, probably of the nature of melanin. The growth might be designated an *angeio-fibroma*.

After the transaction of some routine business, and the reception of various annual reports, the following Council for the next year was elected:

Dr. J. E. Graham, President; Dr. A. McPhedran, Vice-President; with Drs. A. B. Macallum, G. A. Peters, and George Acheson, Councillors.

The society then adjourned till Sept. 26th, 1891.

#### GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

April meeting.

The President, Dr. Henry M. Wilson, in the chair.

Dr. Wm. P. Chunn related a case of ascites which he treated by tapping and permanent drainage with apparently good results.

Dr. B. B. Browne operated more than a year ago upon a woman with ascites, who also had an abdominal tumor which proved to be papillomatous. There has been no return of either the dropsy or the papillomatous growth. He referred to the many cases of laparotomy and washing out of the abdominal cavity.

Dr. Geo. W. Miltenberger could not see why any malignant tumor should not be able, by irritation of the serous membrane, to cause ascites. We often see ascites without any definable cause; and when a growth did exist, it seemed a very good reason for the presence of the fluid. He referred to the case of a colored woman operated upon by Dr. Neale.

Dr. L. E. Neale said that in the case of the colored woman referred to there was no assignable cause for the ascites, except the presence of a sub-serous uterine foetus myoma. At the operation he removed the uterine appendages. The growth remained, but there was no return of the ascites. There was also a complete proclivitas; but after the operation, he was enabled to keep the uterus in place with a soft rubber ring. The tumor gradually diminished and ultimately disappeared. Is the exposure and irritation of the serous membrane during the operation a sufficient explanation of such an alteration in its function when the apparent cause of the ascites extension remains? He thought the question eminently important and practical in its bearings, and that it required further elucidation.

Dr. Wilmer Brinton remarked that in a case of cirrhosis of the liver in a male patient

tapping for the ascites had been followed by a permanent opening, which persisted until the patient's death, one month afterwards.

Dr. J. Whitridge Williams, in referring to Dr. Moseby's remarks, said that the ascites accompanying papillomatous growths was considered to be due, in great part, to direct exudation from the vessels of the growth. He also referred to tubercular peritonitis.

Dr. B. B. Browne exhibited a small tumor about the size of a large hickory nut, and apparently a fibroid, which he had removed from a point a little to one side of the median line, and between the clitoris and urethra. It pressed on the urethra, interfering with micturition. The growth was easily shelled out and the patient did perfectly well. It was the first growth of the sort he had seen in that locality.

Dr. Neale related a case of imperforate rectum in a white male child, naturally born at full term of healthy parents. The child was puny, weighing only  $5\frac{3}{4}$  lbs. at birth, and one inch within the anus the rectum was imperforate. Dr. T. Hanny operated upon the child when it was two and a half days old, very feeble, and partly cyanosed. No anæsthetic was used when anus was cut through, the perineal structures laid open, the coccyx removed, the rectum opened through its posterior wall just above the imperforate part, and its mucous membrane stitched to the skin just behind the original anal aperture. The stitches sloughed out and the large wound healed slowly by granulation. A copious discharge of flatus and meconium occurred during the operation, and the tympanitic abdomen disappeared. Profound shock and collapse followed the operation; the child lying motionless, the feet and lower limbs cyanosed, the face and head less so—jaw dropped, mouth opened, eyes closed, lids blue, surface temperature but little, if at all, lowered, no cry. The features were frequently pinched or wrinkled from pain, becoming more or less blue at irregular intervals. In this condition the child would make no effort at suction, but would swallow two teaspoonfuls at a time of milk and brandy when poured into its mouth, rarely refusing to swallow and never vomiting the food and stimulus, which were given freely and frequently. For nearly two days and a half did it remain in this state—partially rousing during the administration of



food or other disturbance, and again relapsing. Even after this period, when the first decided improvement occurred, the child would frequently relapse and remain in this condition for hours at a time. The first two weeks of its life were passed in this manner. The digestive and urinary apparatus functioned normally. From the tenth to the fourteenth day these attacks gradually diminished and ultimately disappeared. The child is now nearly two months old, but very feeble, and weighs only  $5\frac{1}{4}$  lbs. It has been reared chiefly on condensed milk. The dense cicatrix, just about the seat of the old imperforation, has to be dilated daily with the finger; another operation will be necessary. No diagnosis of abnormality in vascular system could be made.

Dr. Brinton mentioned a case of a child which lived nine or ten days with an open ductus arteriosus.

Dr. Miltenberger said that in Dr. Neale's case the sphincter and anus were perfect. On introducing his finger to the end of the cul de sac, he felt what appeared to him the end of the gut. He thought that no ordinary trouble could account for the symptoms in the case. The cyanosis would not clear up entirely and then recur. He did not consider the condition one of collapse. There was no feebleness of pulse or coldness of surface. The child would lie in an apparently comatose condition, with no evidence of sensation, and then recover. The first attack followed immediately the operation, and evidently from shock; but after two or three days it could not be attributed to this cause. There was no chill or febrile condition. After the child had commenced taking food, he used quinine by inunction, and also small doses of dialysed iron, and, as he believes, with benefit from the latter. He was inclined to account for the condition in this way: A very feeble child had food forced upon it for eight or ten hours; and when it had taken in all it could, it apparently fell into a condition similar to that of vomiting animals, and when the supply of food was exhausted it would recover and take more nourishment. This condition entirely disappeared after the first two weeks.

DR. T. S. CULLEN, of Toronto, is at present at Johns Hopkins Hospital, Baltimore.

## Correspondence.

*Editor of THE CANADIAN PRACTITIONER:*

DEAR SIR,—I read with much interest the case reported by Dr. James F. W. Ross in your issue of Sept. 1st, under the heading of "Symptomatic Cure of a Uterine Fibroid by Electricity," etc. I am a firm believer in the beneficial effects of electricity in properly selected cases, and a proper application of the remedy in those cases, the one being quite as essential as the other. Time, knowledge, and experience are as essential to the successful application of electricity in large dosage as they are to the abdominal surgeon in his field of labor. The knowledge and experience in both instances ought to be sufficiently matured before condemning either means of cure that, in scores of experienced and practical hands, has proved so invaluable in selected cases.

The case reported, judging from the symptoms given, was anything but a suitable one for the application of electricity. It is just such cases, and the reporting of them, that tends to bring electricity into disrepute.

Granted that all the indications pointed to fibroma; but if they did, they pointed to fibroma with a pedicle, in which event electricity is worse than useless.

Had Dr. Ross introduced a sound to aid the diagnosis—for if he did he does not say so—a normal measurement of the uterus would have at once declared that the tumor did not involve the general uterine tissue, the form of uterine myoma that electricity is specially adapted to; but it is absolutely inert in myomatous uterine offshoots, unless by the dangerous puncture method.

I do not think the patient would have dreaded the application had the current's strength been regulated by her sensitiveness to pain. One will bear 250 ms. with less distress than another individual 75 ms. Experience teaches that the sensitiveness of the patient is the guide to the strength of current; a sufficiently large abdominal electrode being used in all cases.

As an offset to Dr. Ross's electrical failure, I may be permitted to report one of a number, Mrs. S., æt. 40, whom I was called to see in consultation with Dr. Dame in August, 1889. She was then being built up, as she termed it,

preparatory to undergoing the operation of hysterectomy by one of Toronto's foremost surgeons. I was called to give an opinion as to the advisability of treatment by electricity. Found the patient extremely weak and anæmic; went upstairs with greatest difficulty. More or less general anasarca. Very great difficulty in defæcation in consequence of pressure of tumor on rectum, as it (the tumor) filled the whole pelvic cavity. The sound passed to the extent of five inches.

I advised a trial of the treatment, as it seemed a typical case for good results. Patient came into my hospital Sept. 11th, 1889, and remained until Nov. 6th, during which time she received 20 applications varying in intensity from 200 to 250 ms., with the result of immediate and marked improvement in general health; local distress completely removed; tumor reduced  $\frac{2}{3}$  in size; sound entered only to extent of 3 inches; no difficulty whatever in defæcation. On returning home, patient was able to do her own work, which she had not been able to perform for months previous. She returned once a week for treatment during the following two months, (reduced current), when she was well to all intents and purposes; tumor size of cricket ball. She has reported at my office for examination about every three months since; has continued well and able to do her work; no local trouble up to date of last visit, the 26th of last month. My note at the time states, tumor not enlarged, patient's health continuing good. She now bids fair to pass the climacteric period without having undergone the formidable operation of hysterectomy. I could cite many other cases equally brilliant, some of which I have reported, clearly showing that in electricity we have an agent that has its domain of usefulness quite as truly as the knife; and in selected cases, clearly indicating its employment. I contend it is the duty of the family physician to see that his patient is afforded a trial before undergoing capital operation.

Probably no abdominal surgeon is fonder of having the scalpel in his hand than myself, yet when lives are at stake we must pause to consider our responsibility and if a less dangerous remedy will possibly avail, we must in all instances sacrifice feelings to duty.

HOLFORD WALKER, M.D.

56 Isabella Street.

## Book Notices.

*The Pocket Anatomist.* Founded upon Gray. By C. Henri Leonard, A.M., M.D., Prof. of Diseases of Women and Clinical Gynæcology in the Detroit College of Medicine. Fourteenth revised edition, containing Dissection Hints and Visceral Anatomy. Detroit, Mich., 1891: *The Illustrated Medical Journal Co.*, publishers. Cloth, 297 pages, 193 illustrations; price, postpaid, \$1.00.

This book is issued on thin, though nicely glazed paper, and takes up but little room, though 300 pages in thickness. The plates introduced are photo-engraved from the English edition of Gray, and are therefore exact.

## Pamphlets and Reprints.

*By-Laws and Regulations of the Board of Health of the Province of Quebec.*

*Vital and Mortuary Statistics of the Catholic Population of the Province of Quebec, 1889 and 1890.*

*Transactions of Kansas Academy of Science, 1889-90.*

*Action, Therapeutic Value and Use of the Carlsbad Sprudel Salt and its Relation to the Carlsbad Thermal Water.* By W. Jaworski; translated by A. L. A. Toboldt, M.D., Univ. of Penn. Philadelphia: P. Blakiston, Son & Co.

*Bloodless Amputation at the Hip.* By E. Lauphear, M.A., M.D.

*The Motive and Method of Electricity in Pelvic Inflammation.* By G. F. Hulburt, M.D., St. Louis.

*A Case of Intracranial Neoplasm with Localizing Eye Symptoms: Position of Tumor Verified at Autopsy.* By C. A. Oliver, M.D., Philadelphia

## Personal.

DR. CASSIDY, of Toronto, after attending the meeting of the Congress of Hygiene in London, went over to the Continent and remained some time in Paris. He was very much pleased with the work of the French surgeons, and we hope to be able soon to publish something from his pen in the same connection. He returned to Toronto on September 10th.

DR. ROLAND HILL, late of the House Staff of the Toronto General Hospital, was married, Sept. 8th, to Miss Ella Hurdon, of Brantford. He left Toronto on Sept. 11th for St. Louis, Mo., where he has arranged to commence practice.

DR. L. F. BARKER, of Toronto, has just completed his term as resident physician for the summer term in a hospital for sick children in a suburb of Baltimore.

DR. JAMES STEWART, of McGill College, has been elected physician to the Montreal General Hospital in the place of Dr. R. L. MacDonnell, deceased.

DR. VICTOR C. VAUGHAN has been elected Dean of the Medical Faculty of the University of Michigan.

DR. PALMER, of Toronto, has removed his office and residence to 40 College street, third door from Yonge street.

DR. M. T. MCFARLANE has returned to Toronto after a stay of six months in New York.

DR. JAMES DOW has commenced practice in Rothsay.

DR. CHAS. O'REILLY, of Toronto, has just returned from a trip to Halifax.

## Obituary.

DR. A. T. CARSON, TORONTO.—Dr. A. T. Carson, of Toronto, died at Heidelberg, Germany, August 31st, at the age of 50. In the year 1889 he had two or three attacks of illness, accompanied by pain in the region of the liver,

the cause of which was somewhat obscure. Early in 1890 he had a severe attack of la grippe, from which he never fully recovered. In June and July of same year he had pronounced, if not pernicious, anæmia. In October he crossed the Atlantic, and, although it was feared that he would scarcely survive the voyage, he derived much benefit from the sea air. After spending a few days in Edinburgh and London, he went to the south of France. From Cannes we received very encouraging reports of his apparent progress towards recovery. He spent the later months of the winter in Italy, and still appeared to be improving in health. Suddenly, however, he grew worse, and had an attack of what seemed like *Roman Fever*. His friends at once decided to bring him back towards home. When they reached Heidelberg he had become so ill that it was deemed advisable to place him in a hospital. He continued to sink, and soon his friends gave up all hopes of his recovery, and now the cable brings us the sad news that his sufferings are ended by death.

Dr. Carson was an Irishman by birth, and was educated principally in Dublin and Edinburgh. He passed for M.R.C.S. Eng., in 1861; M.D. Edin., in 1862. He also received the Lic. Mid. from Edinburgh, Rotunda of Dublin, and the College of Surgeons of England. He was undoubtedly one of the best educated men, both in a medical and in a general sense, that this country has known. After graduating he commenced practice with his father, Dr. James C. L. Carson, in Coleraine, in the northern part of Ireland. In the year 1883 he settled in Toronto, where his abilities and capabilities were soon recognized both by the public and the profession. Before his illness he was engaged in a large and fairly lucrative practice; and among his many friends who mourn his loss will be found many of his former patients, who not only respected him for his ability, but also loved him for his kindness of heart.

DR. BILLINGS, OF HAMILTON.—Dr. L. W. Billings, one of the oldest physicians in the city of Hamilton, died September 9th. Deceased had reached his 87th year. He was one of the last of Sir Astley Cooper's students, beginning practice in Barton Joyce, Nottingham, in 1827. In 1842 he came to Canada, going



first to Guelph, where he remained but a short time before removing to Waterdown, where he lived on a farm for two years. He then moved to Hamilton, where he had resided ever since.

DR. JOHN R. CLARKE, COBOURG.—Dr. John R. Clarke, of Cobourg, died suddenly at his home, August 15th, in the 41st year of his age. He graduated in Arts in Victoria College, and took his medical course in Trinity Medical College. After receiving his degree of M.B., he spent some years in Great Britain, and returned to Canada in 1882, when he commenced practice in Cobourg. He leaves a wife and two young children.

## Births, Marriages, and Deaths.

### MARRIAGES.

NORTON—ROBERTS.—On Sept. 1st, 1891, Thomas Norton, M.D., of Shelburne, Ont., to Miss Annie L. Roberts, of Port Perry.

THOMPSON—BROWN.—On Sept. 9th, Alexander Stewart Thompson, M.D., of Strathroy, to Miss Mary Louise Brown, of Toronto.

## Therapeutic Notes.

TREATMENT OF URTICARIA (*La Tribune Médicale*, Jan. 1st, 1891).—Quinquaud recommends in cases of intermittent urticaria, quinia, but preferably arsenic. In the chronic form, baths and hydrotherapy in all its forms are to be absolutely forbidden. On the other hand, wrapping the patient up in cotton batting is often excellent. Internally alkalies, arseniate of soda, naphthol, are indicated.

For the pruritus he advises :

R.—Aq. lauro-cerasi . . . 50  
Chloral . . . 5  
Aquæ . . . 200

M.

Or,

R.—Ether . . . 30  
Tepid water . . . 60

M.

Also a powder for dusting on the surface :

R.—Amyli . . . 50  
Zinci oxid. . . 10

Or Acid. salicyl. . . 5

M.

When fresh outbreaks supervene, one-fourth of a milligramme of aconitine in divided doses will prove serviceable.—*George T. Elliott, in Jour. of Cutaneous and Genito-Urinary Diseases.*

CHRONIC RHEUMATISM.—The 'clothing' of the patient must be attended to. It is essential that flannel should be worn next to the skin. The Jager underclothing is very good. The diet should be nourishing, and, if stimulants are required, a little whiskey is, perhaps, the best. The internal treatment adopted is very various. I have found the following prescriptions most useful :

R.—Pot. bicarb . . . . . gr. xv.  
Pot. iod. . . . . gr. iij.  
Tr. hyoseyam . . . . . m x.  
Spt. chlorof. . . . . m v.  
Inf. gentian . . . . . ʒss.

M. S. Ft. haustus, ter in die.

In strong adults, a few drops of vin. colchici is beneficial. I have seen good results from three-grain doses of salicylate of soda three times daily. Guaiacum is useful in some cases.

As the patient progresses, a mixture of the following may be given :

R.—Ferri et ammon. cit. . . . . gr. x.  
Pot. iod. . . . . gr. iij.  
Pot. bicarb. . . . . gr. xij.  
Spt. chlorof. . . . . m v.  
Aquæ pimentæ. . . . . ʒj.

M. S. Ter in die.

The syrup ferri iodidi answers well in some cases. If there be much pain, opiates, especially given subcutaneously, are often of marvellous efficacy. If the patient is debilitated, cod-liver oil is useful.—*Hospital Gazette.*

TREATMENT OF SYCOSIS (*Annales de Dermatol. and de Syphilis*).—Rosenthal recommends the following method, which possesses the advantages of facility of application, freedom from pain, and relatively rapid cure:

The diseased surfaces should be carefully shaven each day and the following ointment applied two or three times a day :

R.—Tannic acid . . . 1 gm.  
Sulphur . . . 2 gm.  
Vaselin . . . 10 gm.

M.

After the friction with this ointment at night, an emollient ointment, Wilson's or Hebra's, may be applied.

The writer has also recently employed, with good results, the following paste :

|                |                |
|----------------|----------------|
| R.—Tannic acid | 5 gm.          |
| Sulphur        | 10 gm.         |
| Oxide of zinc  |                |
| Starch         | aa 17-50 c.cm. |
| Vaselin        | 50 c.cm.       |

M.

This may be applied night and morning. By this method epilation may be dispensed with.—*Jour. of Cutaneous and Genito-Urinary Diseases.*

### Miscellaneous.

**LADIES' RIDING ATTIRE.**—Those of our readers who take or see the *Illustrated Sporting and Dramatic News* will probably have noticed some very well-drawn figures of ladies on horseback, entitled "Riding on the Road." They are accompanied, as they should be, by one or two well-attired men on horseback, who may possibly be their riding-masters. Such a group is frequently seen undergoing their lessons in riding at our fashionable seaside resorts. We have on former occasions called attention to improvements in riding habits, especially with a view to the increased safety of ladies on horseback in case of accident, and we are pleased to find that considerable advance has been effected in this respect. Fashion is capricious in riding habits as in other articles of ladies' attire, and it will be seen, on reference to the sketch above mentioned, that in the place of the loose-flowing skirt an unbecomingly tight one has come into vogue. We are not concerned with the artistic outline given to the figure by this modification of the garment so admirably depicted in Mr. J. Sturges' delineation of elegant figures on horseback in the issue of our contemporary of Aug. 22nd, though we are aware that such fashions are thought to be very "fetching": but it is a matter of interest to our readers for us to point out that such tightly fitting habits, cut so exactly to the configuration of the female form, lessen freedom of movement in the event of accident, and therefore increase danger. Moreover, such tightly adjusted garments suggest that the underclothing, considering the amount of covering this portion of the body usually has, must be altogether inadequate. A sufficient freedom of movement should be insured by the cut of the

riding-skirt, and underneath knickerbockers and gaiters in one should be worn, made of material sufficiently warm and elastic to suit the time of year—thicker in winter, and thinner in summer. Ladies will find such garments by far the most comfortable to ride in, the safest in the event of accident, and the best suited to promote health.—*Lancet.*

**BEER-DRINKING AND HEART DISEASE.**—It is said (*Blatter f. Klin. Hydrotherapie*, 1891, No. 4) that disease of the heart is very prevalent in Munich, where the consumption of beer amounts, on the average, to 565 litres per head annually; and in the same place the duration of life among the brewing trade is shorter than that of the general population. Whereas the average age attained among the latter is 53.5 years, that of ale-house keepers is 51.35 years, and of brewers 42.33 years. The same note adds that for the whole of Germany the annual consumption of beer per head amounts to 88 litres, but for Bavaria it is 209 litres.—*Lancet.*

**IODOFORM AND ARISTOL.**—Dr. Richtmann recommends that iodoform should in all cases be replaced by aristol; the latter has the advantages of iodine and of thymol without their drawbacks. It is not irritating, its absorption is not followed by toxic symptoms, and its odor is not disagreeable. Unfortunately, it is insoluble in water. The following are some of the ways in which it may be used:—

In the form of powder, externally, or one part dissolved in ten parts of ether for external use.

A mixture containing 3 per cent. of aristol, in 20 of olive oil and 77 of lanolin, is a good application for burns.—*Nouveaux Remèdes.*

**A NEW USE FOR ARISTOL.**—Dr. Levick, of Philadelphia, says (*Med. News*): In a case of poisoning of the hands from *rhus toxicodendron*—poison oak—recently under my care, which had reached the vesicular stage, and was attended with much swelling and burning, the happiest results promptly followed the free dusting of the powder of aristol on the affected parts. The change was almost magical, so sudden and so prompt was the relief afforded. Might not this powder, applied in the early stage of the disease, do much toward preventing the ulceration and pitting of variola?

THE

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## Original Communications.

### EPILEPTIC INSANITY.\*

BY DR. MILLMAN, OF TORONTO.

Epileptic insanity, as the name implies, is the disease known as epilepsy combined with mental derangement. Epileptic fits may continue for years with very slight, or, indeed, with no appreciable mental disturbance, especially if the fits are few and far between. In fact, such rare fits are compatible with great mental power. Julius Caesar, Mahomet, Napoleon I., are said to have had such occasional attacks. But it is true, as Clouston in his work on mental diseases sets forth, "Frequent recurrence of epileptic fits for many years tends in some degree to impair the mental faculties, to dim the reasoning power, to twist or take the fine edge off the feelings, emotions, and sensibilities, to affect the memory, and to change the 'character,' even where there is no actual insanity."

It is usual for the insanity not to follow at once the first appearance of the fits. Most commonly years elapse before it comes on. Violent mania has, however, succeeded the very first fit, or at least the first fit the patient was known to have had.

The mental derangement of the epileptic may assume the form of maniacal excitement, of melancholic depression, of mental enfeeblement or dementia, or of delusional perversion,

or perversions of the moral being: any one or more of these states may be revealed by the patient.

I might here add that, although I have had large experience in observing cases of epileptic insanity, still in preparing this paper I am indebted to the writings of Gower, Clouston, Maudsley, Bennett, Seguin, W. Bevan-Lewis; in fact, from the latter I have quoted quite freely.

To witness a typical epileptic fit, one is surprised that the patient ever again returns to a normal mental condition, and particularly so soon after the fit. There is such a brutal expenditure of force wholly out of proportion to the normal physiological outlay. The explosive violence is so severe that the nervous tracts traversed by the storm are so damaged that transiently they are incapacitated for the further conduction of the nerve current, and the centre itself is paralyzed for the time by its enormous expenditure of energy. The mind, however, is prone to suffer only when the functional disturbance occurs in the highest nervous arrangements of the cerebral cortex — "the substrata of consciousness." It is thus important to remember that any one part of the cerebral cortex may be the site of an epileptic discharge. Discharges in motor realms will afford endlessly diversified combinations and sequences of spasms, while discharges from sensory realms will likewise implicate correspondingly complex centres. Discharges beginning in motor centres may spread to others and finally involve the

\*Read before the Ontario Medical Association.



sensory and most complex centres, ending in loss of consciousness, or they may begin in the sensory and spread to the motor. In many cases, especially unilateral convulsions, we can trace the spread of the discharge without much trouble, but this is not the rule with the epileptic seizures associated with insanity. Here we most frequently observe attacks of *petit mal*, or else that form of *grand mal* in which the loss of consciousness is early and complete, and the spread of the discharge is so rapid and complete that the whole body is almost simultaneously affected by the convulsion. Consciousness is lost so early that the patient falls instantly, as though struck senseless by a blow.

The course of the discharge from sensory areas cannot, from the very nature of the case, be followed. We can only learn the existence of an aura from the subsequent statements of the patient. We must not, therefore, be too much impressed by the results of the motor discharges and lose sight of the fact that equally powerful discharges, of which we see no result, may pass along sensory areas at the period when consciousness is abolished. The student is too apt to pay undue attention to the muscular spasms and forget that more noxious effects are being produced in the areas of mental and sensorial activity, silently, and concealed from his view. It is, therefore, important to bear in mind the results that may arise from the implication of the sensory portions.

From the above it is very apparent that the large number of epileptics in our asylums present great divergence in the history and progress of their affection. Some remain inmates for many years with the intellect but little impaired, and then only at those periods when subject to epileptic seizures; others, with few, if any, convulsive attacks, betray at long intervals periods of depression, of moroseness, or of excitement; yet in the interim they are perfectly rational, cheerful, pleasant, and very obliging. In others, again, the mind becomes rapidly enfeebled and these soon sink into dementia, this being more profound at the time of having fits; then, in others, wild, ungovernable fury prevails. Yet again, in two cases where the motor disturbance is similar, one is struck with the wreck of mind in one and the clearness of intellect in the other. The resulting dementia,

therefore, varies very considerably in degree, so that each individual case may be unlike the other in this respect; and this is undoubtedly dependent upon the varying seat of the primary discharge from the cortex. It is evident, therefore, that we must not rest satisfied with a mere observation of the motor discharge as shown by the convulsive seizure; but we must likewise question our patient closely upon his sensations and mental disturbance immediately preceding the loss of consciousness, and observe closely his condition as presented after the paroxysm and up to the full re-establishment of conscious activity. The patient may be blind, may have anæsthesia on one side of the body, may be using his jaws as if eating something, with corresponding movements of the tongue, as if the discharge had been from the centre of taste.

All cases of epileptic insanity should be studied before, during, and after the paroxysm. In many cases a marked mental change may be observed before the fit. For some days the patient is not like himself, and the educated attendant is quick to perceive these changes. He knows a fit is impending, and he is on the alert. He indulges the patient in his whims, endeavoring to soothe his morbid irritability and especially guard him against unnecessary annoyances. The patient, as a rule, is very irritable and unreasonable, and it is useless to argue with him; in fact, that generally makes matters worse. He may be restless and melancholic, having a dread of impending evil. He may be joyous, or, again, he may be very suspicious, may claim that his food has been drugged, and that that is the cause of his trouble, and not epilepsy. Others are very much devoted to their Bible, claim they are good men, and do not want to be disturbed. Others believe they have been insulted, and are ready to do violence.

In some cases the aura now follows. This may be of one of the special senses of sight, a bright light, flashes of light, etc.; of hearing, as hissing, blowing, or explosive sounds, or there may be a loss of hearing, or the aura may begin in the epigastrium and rise in the throat, producing a choking sensation, or there may be violent palpitation of the heart. But, as before stated, frequently there are no such premonitions, but the patient falls suddenly, as if he

had received a heavy blow. The "epileptic cry" is very frequent among the insane. This may be a low, plaintive wail, or a loud, wild scream, or a succession of piercing shrieks, as if overcome by terror. It may be a hoarse gurgling in the throat, or a prolonged groan. An attack of *grand mal* is too well known, and I will not take up your time in describing it. This period may last for only a few minutes or for several hours.

In attacks of *petit mal* there may be nothing observed beyond momentary loss of consciousness and pallor of face. The patient may be standing or sitting, but does not fall. He may drop what he holds in his hand or suddenly be arrested in movement, but may instantly recover himself and act as if nothing unusual had occurred. Esquirol relates the case of a lady equestrian who had frequent attacks of *petit mal* when on horseback, yet never fell off. There was a momentary arrest in her conversation, the bridle dropped from her hands, but in a few seconds she had recovered and finished the sentence of conversation interrupted by the attack. One of the premonitory auræ before noted, with some vertigo and reeling, may constitute an attack. A patient may be subject to such attacks for years without a single seizure of *grand mal* occurring, or they may alternate in the same patient. Dr. Lewis cites the case of a patient in the West Riding Asylum who one morning, while sitting up in bed, was requested to write his reply to a question. He wrote a lengthy answer, interrupted by four or five attacks of *petit mal*. There was a momentary loss of consciousness, the head drooped slightly, the pencil slipped through his fingers, but was almost instantly regained, and the sentence was continued without any apparent disconnection of words or displacement of letters; the interruptions were so slight that if he had not been closely watched the condition might have readily been overlooked. In a medico-legal sense such a case is of the utmost importance to recognize, as in the midst of his slight seizures such a patient might easily have written a letter showing no confusion of ideas and consistent in all respects. It is also well known that the slight attacks issue in the most rapid impairment of the intellect. This is because, as pointed out by Hughlings-Jackson,

the disease is of the "very highest nervous arrangements in the whole nervous system, that is to say, the substrata of consciousness." As he also points out, in such cases we do not have muscular convulsive seizures, but convulsions of the ideas.

We now come to the period after the seizure, and this is a very important one. The mental automatism then displayed is in many cases prolonged, and affords us the opportunity of careful study. The mania may be of a very transient duration, but is not always so. It may extend over many days without further epileptic seizures. The excitement does not bear any relation to the severity of the attacks or the number of them. The greatest excitement may follow attacks of *petit mal*; and on the theory of Hughlings-Jackson we might expect this, seeing that the conscious substratum is most involved. The excitement is most acute, attended by almost ungovernable violence and frenzied fury. No maniacs show such blind, uncalculating fury as the epileptic. On this account he is one of the most dangerous subjects we have to deal with in our asylums, for the attacks often occur with slight, if any, warning; the signal first given being often an attack of brutal and impulsive violence. The expression of the patient is pale, ghastly, eyes staring vacantly. He may not utter a word, rushes madly at his attendants, struggles wildly, and appears wholly oblivious to existing conditions around. At these moments suicidal or homicidal acts are not seldom accomplished. (The above is not always the rule, for I have seen epileptics who were almost always good-natured, but such cases are very rare.) He may be urged on by some delusional notion of persecution. This he may have had before the seizure, and it now reappears; for it is a fact, that what was most vivid in the mind just before the seizure is frequently the most vivid after the seizure, when consciousness is returning. Just before the seizure he may have been answering a question but did not finish it; on returning to apparent consciousness he completes the answer. This is a very important point to remember, for before the attack he may have had sufficient self-control to withstand the delusion, but now having no such control of himself he performs a suicidal or homicidal act. From a medico-legal point of

view, we cannot too strongly insist upon this feature, that the leading ideas in the pre-paroxysmal stage are likely to become operative in conditions of post-epileptic automatism. This automatic condition is of great interest. Patients at this stage perform not only the most incongruous acts, but carry out what would seem to be complicated purposive acts, to which they are entirely oblivious on return to normal consciousness.

Maudsley, one of the ablest writers on mental diseases, and an expert as a medico-legal jurist, cites case after case of homicidal acts of the epileptic, and among them such cases as where considerable ingenuity has been displayed in attacking the victim unawares and afterwards in concealing the crime. The whole deed was performed automatically, as it were; a mere impulse, with no—or very little—remembrance of it afterwards.

While assistant superintendent in Kingston Asylum, I remember a man being sent from Ottawa. He was a married man, about 45 years of age; had been an epileptic for years. Shortly before being sent to Kingston Asylum, it seems he consulted a lawyer on some business. The lawyer could not coincide with his views. This annoyed the man; he left the office, went to a hardware store, bought a butcher's knife, returned to the office and stabbed the lawyer. At the trial he was found insane and sent to the asylum. This man claimed he did not remember going to the office to consult the lawyer, or any of the subsequent events. I believe him. He acted automatically; that period of his life was a perfect blank to him.

In the case of Harvey, who was hanged at Guelph something over a year ago for killing his wife and two daughters, I believe he was the victim of epilepsy—not the typical muscular convulsive form, but, as Hughlings-Jackson puts it, a case of convulsion of ideas. This man claimed the whole affair was a blank, and no doubt it was so.

There is no form of insanity that, outside of asylums, is more frequently the cause of murders, except, perhaps, the alcoholic.

One-tenth of epileptics become inmates of asylums, and there, possibly, to spend the balance of their life.

Seeing that the asylum or the gallows is the

end of so many of our epileptics, should we not consider it our bounden duty to do all we can for this unfortunate class?

If we cannot hold out a sure cure, we can in most cases promise considerable amelioration of their disease; but we must impress on these people the necessity of faithfully carrying out all our instructions. Unless they promise to lead such a life as is mapped out for them, unless they will take their medicine regularly and persistently, I am afraid we will fail in doing good. The epileptic is a creature of impulse, and one of the first difficulties is to get him to control his appetite. He is frequently addicted to alcohol, and is often a gourmand. An insatiable appetite is often a precursor to a fit. His diet should be plain, easily digested, with no surfeits; his life should be regular, meals at fixed hours, retiring early at night, rising early; he should do a certain amount of work, manual preferred; take daily baths, and get plenty of fresh air.

Of all the drugs that have been tried in this disease, none have been so beneficial as the bromide salts. We should arrest the fits as soon as possible, and with this end in view should prescribe the bromides in preference to any other drug. Should begin with moderately large doses, say, half a drachm or two scruples three times a day. My own experience has been with the bromides of potassium and ammonium, and I prefer them, as they appear to agree with the stomach better than the combination of potassium and sodium. Then the ammonium is more or less stimulant, and thus does good where there is depression. In the asylums we have patients taking drachm doses three times a day; that is, half a drachm each of the potassium and ammonium salts. This dose has been given regularly for years to the same patients.

It is believed by a great many that the physical and mental depression resulting from their prolonged toxic effects constitutes a condition worse than the malady for which they are exhibited. The accuracy of this assertion is questioned by the best authorities. Dr. A. Hughes Bennett published a very valuable paper in the *English Lancet*, May 17th, 1884, with the object of showing that the above belief is erroneous. As physician to the Hospital for



Epilepsy and Paralysis, Dr. Bennett had had a large experience in the treatment of epilepsy. He writes: "The present enquiry is the result of an experience of 300 cases of epilepsy treated by myself with the bromides of potassium and ammonium. In all of these the clinical facts, as well as the progress of the malady, were carefully studied and recorded. The general conclusions arrived at were as follows: In 12.1 per cent. of epileptics the attacks were completely arrested during the whole period of treatment by the bromides. In 83.3 per cent. the attacks were greatly diminished, both in number and severity. In 2.3 per cent. the treatment had no apparent effect. In 2.3 per cent. the number of attacks was augmented during the period of treatment."

He further adds: "The form of the disease, whether inherited or not, whether complicated or not, recent or chronic, in the young or in the old, in healthy or diseased persons, appeared in no way to influence the treatment, the success being nearly in the same ratio under all these conditions."

In the same paper he gives a table showing the effects of the continuous administration of the bromides in the epileptic state in 141 cases.

At the end of one year in 51 cases the physical and mental powers were unaffected in 39, impaired in 6, bromide eruption in 8.

At end of two years in 34 cases the physical and mental powers were unaffected in 28, impaired in 2, bromide eruption in 6.

At the end of three years in 30 cases the physical and mental powers were unaffected in 28, impaired in 1, bromide eruption in 3.

At end of four years in 16 cases the physical and mental powers were unaffected in 12, impaired in none, bromide eruption in 2.

At end of five years in 6 cases the physical and mental powers were unaffected in the whole 6. No eruption.

At end of 6 years in 4 cases the physical and mental powers were unaffected in the whole 4. No eruption.

Minimum dose given was  $1\frac{1}{2}$  drachms daily, viz., 15 grs. each of bromides of potassium and ammonium three times a day.

It must be remembered that the effects of epileptic fits on the physical and mental powers resemble considerably those attributed

to the use of the bromides, so possibly the latter have often been blamed for symptoms which were the result of the disease.

I have been in the habit of combining the bromides with other drugs. Vegetable bitters for the stomach's sake, and Fowler's solution to counteract tendency to bromide eruption and also as a tonic.

Dr. Hughes Bennett states that the form of the disease, age of patient, etc., did not seem to affect result of treatment. However, some good authorities claim that epilepsy of childhood is much less benefited by treatment than when it appears later in life, and I know among the epileptic insane, nocturnal epilepsy is not so amenable to treatment as when the fits occur in the daytime. It is well in these cases to add digitalis to the mixture and also give a double dose of the bromides at bedtime.

The female epileptic insane are not benefited by the bromide treatment to the same extent as the men. Fortunately for the former sex, epileptic insanity is not nearly so common as among the male sex, although, according to Gowers, there are six female epileptics to every five male in the world.

If the bromides fail it is well to try other remedies, but I think in most cases it is wise to combine them with the bromides. Among the more prominent of the drugs that have done good are digitalis, belladonna, chloral hydrate, ergot, oxide of zinc, iron, nitro-glycerine, nitrate of soda, etc.

In March of last year Dr. Seguin, of Providence, R.I., in a series of lectures delivered before the Medical Society of Toronto University, gave in detail the treatment of epilepsy. He said: "In undertaking the care of a case of this affection you should stipulate for plenty of time to study the case in all its aspects, and for rather frequent visits at first for the purpose of adjusting the doses, securing proper hygiene, etc." He adds: "Remember that you are prescribing the drug, not against the disease as a sort of entity or tangible enemy, but for the individual patient to reduce the excitability of parts of his nervous system to a certain point. The susceptibility of persons to the action of bromides varies very greatly. From these two considerations you readily perceive how delicate a matter it is to find the right dose for a given

patient; it sometimes requires one or two months of experimentation." Unpleasant bromism has been produced by very small doses in one case, while others can bear nearly half an ounce daily without any evil results.

He states that little children bear much larger doses proportionately than adults. Children from two to six years will need 40 to 60 grs. daily to arrest the attacks; and take these quantities without bromism.

Organic cardiac disease or feebleness of heart decreases the ability to withstand bromides. Acue is no guide to the dosage of bromides. It depends a great deal upon the peculiarities of the patient, as, for instance, an unhealthy skin, etc.

Dr. Seguin prefers the sodium salts and gives it alone, and advises it to be given largely diluted in slightly alkaline waters.

How the bromides act is not satisfactorily known, and possibly will be only theoretically surmised until we know more about the pathology of the disease. It is supposed that the morbid state in epilepsy is essentially an instability of the resistance in the cells of the cortex of the cerebrum. Like an electric battery, there is a discharge from the cells. Now the bromides are supposed to act by increasing the stability of this resistance, and, if they effect cure, they produce nutritive changes rendering the cell energy more stable.

Until recent years all that was done with the epileptic insane in asylums was to prevent them from doing acts of violence, destroying clothing, furniture, etc. They were looked on as among the most dangerous and troublesome of lunatics. Many of them spent most of their time in straight-jackets, muffs, strapped in chairs securely fastened to the floor, or tied in bed. When I first entered the asylum service this was the condition with some of these unfortunates, but the writings of Bennett, Gowers, Clouston, and others, on the efficacy of the bromides and the harmlessness of their continued use in most cases, have revolutionized affairs.

The epileptic, like all other insane in the asylums, is no longer in restraint. (And I might here add parenthetically that the word restraint will soon be unknown in these institutions. It is practically unknown in the Ontario asylums.) Thanks to the bromides, many of

the epileptic insane who formerly were most dangerous and maniacal are now quiet, industrious inmates, some of whom, remaining fairly well mentally, are allowed to go home to their friends. The trouble is, when they get away from the asylum care and routine, they are apt to neglect their medicine, live more or less irregular lives, and soon have to be sent back. Many of them are among the useful patients in the asylums, working steadily, and can be trusted by themselves. I know several epileptics in the Kingston Asylum who are working steadily, some in the carpenter shop, others on the farm, etc. Should these same refuse to take the bromides, as occasionally they do, fancying there is poison in the dose, then the epileptic demon bursts forth in fury and for a few days has full sway of his victim.

The medicine must be taken as regularly as the food, or it will fail. I know patients in Kingston Asylum who have taken one to three drachms of bromides daily for years, and their bodily health is just as good now as it was when they began treatment, and their mental condition, if anything, is better. Dr. C. K. Clarke, superintendent of that institution, informed me of two patients who had taken bromides for years, went home recovered, and have remained well for four or five years. A very pleasant old gentleman (a farmer) was admitted to the asylum while I was there on account of epileptic seizures. He was afraid of himself and was anxious to be placed in restraint. It so affected him that he would sit down and cry like a child. We put him on the bromide treatment. He had no more fits; in six months went home, and, I believe, has remained there since, keeping well and taking his medicine regularly. Occasionally he sent a letter to the superintendent, informing him how happy he was. I could go on citing cases, but I am sure I have wearied you. But I hope what I have stated will encourage you to persevere with your epileptic patients. For if so much benefit can be effected to the epileptic insane, how much more should be effected with the epileptic who still has his "right mind."

To prevent bromism in epileptics, Huchard recommends the use of diuretics, and especially of milk.

## IS ALCOHOL A STIMULANT?\*

BY H. ARNOTT, M.D., LONDON, ONT.

Especially in practical therapeutics, the dead past has not buried its dead, and consequently many of its ghosts do duty as active forces in our treatment of to-day. Phlebotomy has only been partially laid to rest, and many other venerable absurdities pass muster. Among the latter I class the prevalent notion that alcohol is a stimulant. The theory of stimulation should be thoroughly discussed, for it lies at the very foundation of medical treatment. Purgation is another name for the stimulation of the function of the intestinal mucous membrane, and a similar remark would hold good regarding many expectorants, stomachics, diuretics, etc., and any misapprehension regarding their action must lead to error and bad practice.

A false theory regarding the action of medicine must lead to misapplication of it. One case may give the most encouraging results which the next may flatly contradict. In this manner we have gone on in the use of alcohol, with frequent announcements of infallible indications for its administration, with the result that, at the present time, there is no medicine regarding which such varying and directly antagonistic views are held by competent men. Whilst the majority of text-books repeat the old chestnut that it is a stimulant, we have in the old country such eminent men as Whitla, of Belfast; Henley, of Univ. Coll., London; and B. W. Richardson, in America; Davis, of Chicago; Palmer, of the University of Michigan, and many others, who boldly declare that we will never understand its action and never be able to use it to the best advantage as long as we cling to the stimulant theory. They teach that it is narcotic and sedative with an antiseptic action, and *that* in proportion to the quantity taken.

My purpose is to prove that alcohol is never a direct stimulant, but that it is narcotic and sedative in all doses. Advisedly I use the expression "direct stimulant," for any narcotic or sedative may act indirectly as a stimulant by quieting undue nervous excitement. In this manner chloroform and opium often increase the strength of labor pains: opium acts as a pur-

gative, and a glass of whisky steadies the hand of a nervous operator.

I am not attacking alcohol as a medicine, but simply the theory that it is a stimulant. I wish also to urge that, in common with other narcotics, it is a dangerous remedy to prescribe, especially in chronic cases. Indeed I have never been able to comprehend why we prescribe opium with so much and such proper caution, whilst we deal out alcohol, which does tenfold more harm, as if it were the most harmless drug in existence.

Our views about the meaning of the term "general stimulant" are somewhat hazy. So universally is the word "stimulants" applied to alcoholic liquids that a foreigner might easily imagine that we believed there was and could be no other form of stimulant; that even men who admit that alcoholic is narcotic and sedative still speak "giving stimulants."

The horse illustration probably conveys as clear an idea of the general application of the term as we can get. It teaches that as a whip calls forth the energy of the horse without putting any into him, so will alcohol call forth the latent vital force of the system without supplying anything to assist in its development. It teaches that as the horse would stick in the mud without the application of the whip, so would the machinery of the system stop before its force was exhausted but for the use of alcohol.

That nature could or would give up before all her force was exhausted is probably as absurd an idea as could be imagined, and yet that is the plain teaching of the illustration. Many ingenious theories have been proposed to account for such extraordinary teaching. One is that there is a reserve force in the system which nature would not put in the field unless forced to do so by so-called stimulants. We need not dwell upon this. Another says that the coarse alcohol atoms coming in contact with the fine brain cells explodes them and sets free their contained energy. As a theory this is very pretty; but as it implies that alcohol supplies no material for repair, it would seem very much like a "bull in a china shop." Moreover, this theory would not be consistent with any but a very short period of stimulation. As so-called stimulants are given to tide a

\*A paper read before the Ontario Medical Association.



patient over a difficult time, it means that only for them the patient would die. But as it supplies no force it must, as the illustration implies, act as a whip, spurring nature into greater exertion.

If we accept the theory that alcohol can spur nature into greater exertions, is it not a mad policy thus to squander the vital powers? Would it not be wiser to economize every particle of fuel by running the machinery as low as possible? Are we not like the madman heaping more wood on the fire, lest it go out, till he burns up the house; or like the boy lashing his horse into a gallop lest he would stop? So even if we accept the doctrine of general stimulation, it is an unwise course to follow.

Van Helmont believed that vital force was an immaterial spirit which could be soothed to repose or roused to fury. The physiology of to-day believes that it is the resultant of the various nutritive changes going on in the system. It does not believe in a ghost that can be soothed to sleep or frightened into action. It does believe that medicaments can divert force from an organ or to an organ through the agency of its blood supply. But as blood or force directed to one organ is diverted from another, the idea of general stimulation is unsound.

There is a difference between feeling strong and being strong, between feeling elevated and being stimulated. Have we not been taking the shadow for the substance—appearance or feeling for reality? Have we not been attributing feelings caused by diminished sensibility to increase of power? If the ease and buoyancy experienced after a dose of brandy be really due to increase of power, then it would be of the greatest value during severe exertion. But the opposite is the case.

Many seeing the absurdity of stimulating without nourishment have fallen back on the theory that alcohol is a stimulant because it is a form of food which can be digested and assimilated when no other can. The question of the food value of alcohol has been carefully studied with variable results. Those most in favor of alcohol admit that an average man can only assimilate about three ounces of whisky in twenty-four hours. Even Anstie says that any quantity beyond that becomes a source of

mischief. How then can we defend the enormous quantities administered to patients whose digestion is weakened by disease? Only the most blind fatuity would attempt any such defence.

Again, a wholesome food does not lower temperature as alcohol has been proved to do. N. S. Davis, and many others, have shown that during the active digestion of ordinary food, the temperature of the body is always increased; but after taking alcohol the temperature begins to fall, and in exact proportion to the quantity taken. Dr. Hayes, the Arctic explorer, says that "while fat is absolutely essential to the inhabitants and travellers in Arctic regions, alcohol is positively injurious." Dr. McRae, speaking of Arctic exploration at the meeting of the American Association for the Advancement of Science in 1856, said, "The moment that a man swallowed a drink of spirits, it was certain that his day's work was nearly at an end. It was absolutely necessary that the rule of total abstinence be rigidly enforced if we would accomplish our day's work. The use of liquor as a beverage when we had work on hand in that terrific cold was out of the question."

There is abundant evidence that it does not give muscular strength in any dose. Persons in training abstain from it, although previously accustomed to its use. On severe marches there is general agreement that men do better without it. Ringer, Farquharson, and others, say that nothing is better proved than that alcohol lessens the capacity for muscular exertion. Such an expression, coming after having extolled it as a digestive agent and lauded it as a valuable stimulant and most digestible form of carbonaceous food, is a remarkable illustration of the power of alcohol to blind the judgment. How an article which is a food, a digestive agent, and a stimulant, can lessen the capacity for exertion, I must leave to more powerful intellects than mine to explain.

Many observers seem to think that whilst harmful during exertion, it is useful after the fatigues of the day. The explanation of its action at such a time is plain. In the words of the "Encyclopedia Britannica," it "benumbs or paralyzes the useful sensation of weariness," and causes the men to feel and act jolly when they should be obeying the mandates of nature and

resting their weary limbs. If it were either a food or a stimulant, surely the proper time for its use would be during the hours of exertion.

All are agreed that it is narcotic in large doses, but many cling to that refuge of despair that it is stimulant in small doses. This is the last stronghold of king alcohol as a stimulant and it is already tottering to its fall. It is difficult to conceive how a medicine can have one action in one dose and an entirely opposite one in another dose. If such were the case, we would have a sorry time of it; for when you thought you were giving a stimulant dose, it might very inconveniently turn out to be narcotic and *vice versa*. This would especially be true of alcohol, which affects different people, and even the same person, under different circumstances so differently. A drug may have an entirely different action in different doses, but not an entirely opposite one. Thus, tartar emetic may be expectorant, emetic, or purgative, according to the dose. This is different, but not opposite, effects. But when science prescribes two ounces of whisky at night to soothe a man to sleep and one in the morning to wake him up and rouse him to action, there is grave fear that her usually well-balanced mind has become somewhat muddled.

The idea of the stimulant properties of narcotics in small doses has arisen from the supposed stimulant action of their primary stage. Is the primary action of chloroform, opium, and alcohol stimulant, or is it only paralysis of some of the sensory functions and of the inhibitory forces preceding the latter paralysis of the sensation of pain and of muscular powers? This seems to me the proper explanation.

The first effect of a narcotic is a diminished sensibility which drowns unpleasant sensations and causes a man to have a feeling of ease and buoyancy. He is no longer conscious of the friction of the machinery of his system. Next, the restraining influences of bashfulness, education, self-restraint, etc., are deadened, leaving him stripped of all affectation, his real self—*in vino veritas*. Now he feels as strong as Samson and as bold as a lion. The increased action of the heart has been shown to be due to paralysis of its inhibitory nerves instead of to increased power, as has been supposed. Later on, the acceleratory nerves are involved and the heart's

action becomes slower. The increased action is no proof of increased power. A man running is not stronger than when walking, and moreover cannot keep it up so long.

The systole of the heart has been shown to be shorter and quicker, and the work done by the heart diminished, within a minute after the administration of even moderate doses. This was demonstrated by the recent experiments of Prof. Martin, of Johns Hopkins University, on the effects of different proportions of alcohol on the heart of a dog. Drs. Ringer and Sainsbury also carried out a series of experiments in which they could tell the strength of any preparation of alcohol by its action on the hearts of frogs. These latter say that, by their direct action on the cardiac tissue, these drugs are clearly paralyzant, and that this appears to be the case from the outset—no stage of increased force of contraction preceding.

If this be conceded, then there is no such thing as a stimulant stage; but that which has been so-called is narcotism of the inhibitory forces and influences, including the heart. But even if the first stage were stimulation, by what law do we conclude that small doses have no secondary action because such is not apparent?

But we have positive proof that small doses of narcotics have a secondary action in the facts that they relieve pain, and also that they cause that craving for more which is characteristic of all narcotics. I have seen a typhoid patient in the third week, delirious, picking at the bed-clothes, and grasping at vacancy, repeatedly soothed to sleep in a few minutes by the hypodermic injection of an eighth of a grain of morphia. This was a typical case for whisky, but perhaps some will say it was the stimulant effects of the morphia which so quieted him. To such I would have no answer.

These considerations satisfy me that the action of alcohol is narcotic or sedative in all doses. But if further evidence be needed, we have it in the consideration that its action can best be explained from that view. I know of no effect of alcohol that I have ever observed that cannot be satisfactorily explained from its narcotic or its antiseptic qualities.

On the other hand, there are very many of its effects that cannot be explained from the stimulant theory. My firm belief is that many

patients which have been sent into eternity reeking with brandy would have lived to bless the good sense of the doctor if he had had the courage and the faith in nature to withhold it. But just as we continued to bleed and blister, when we knew better, through fear of public opinion and under the tyranny of what Shakespeare terms "dam'd custom," so do we continue to dose our patients with whisky and brandy when we know that in health or disease, in small doses or large, it weakens the vital powers.

## THE SECOND CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

[COMMUNICATED.]

The second Congress of American Physicians and Surgeons commenced on the morning of Tuesday, Sept. 22nd, by the meeting of special societies.

The first general meeting was held in the afternoon, when a very able and exhaustive paper was read by Prof. Welch on "The Conditions Underlying the Infection of Wounds," including a discussion of disinfection with reference to treatment of wounds, of relation of bacteria to suppuration, of the resistance of tissues to the multiplication of bacteria, and of the effect of antiseptic agents on wounds.

Some of the practical points referred to in the paper were:

(1) That wound infection takes place in the great majority of cases from want of cleanliness of instruments, want of cleanliness in the operator, as well as of the patient operated upon.

(2) That there is some danger of infection from the surrounding atmosphere.

(3) That the general health of the patient is of great importance in the question as to whether a wound will become infected or not.

Dr. Roswell Park, of Buffalo, followed in a paper from which similar conclusions might be drawn.

Mr. Thomas Bryant, of Guy's Hospital, astonished many of his hearers by his treatment of the subject of bacteriology. He spoke of it as a very interesting study, but that after all the results were of little value to the practical surgeon.

He was taken rather severely to task by Dr. Chiene, of Edinburgh, who spoke eloquently of the work of the bacteriologist, and of the great benefit surgery had derived from him.

The intense heat which prevailed upon this as well as the second day of the Congress prevented many from paying that close attention which the able discussion merited.

An exceedingly able paper was read in the Dermatological Association by Dr. White, of Boston, upon the clinical aspects and relations of tuberculosis of the skin.

He made the following divisions: *Lupus vulgaris*, *verruca necrogenica*, *tuberculosis cutis*—including ulceration—acute tuberculosis of the skin, suppurative infective lymphangiectasis, *scrofuloderma*, including under that head chronic ulceration, accompanying bone disease, *dactylitis*, sinuses, etc. He does not think there is sufficient evidence that *lupus erythematosus* is of tuberculous origin. He demonstrated the relationship which these various forms bear to one another, and that although they differ widely in their external appearance they have essentially the same pathological process. He referred (1) to the clinical proof; (2) to the presence of the bacillus in all forms. This organism he considers the active agent in the production of the disease. (3) By inoculation experiments the same disease—tuberculosis—is always reproduced in animals. (4) Auto-inoculation as shown by clinical observation. (5) Association with pulmonary tuberculosis. A large percentage of lupus cases die of tuberculosis.

A weak point in the paper, to my mind, was his doubting the existence of such a thing as hereditary tendency to tuberculosis, and he was inclined to explain the frequent occurrence of a number of cases in the same family on the ground that the chances of contagion were much increased. We may in the past have placed too much importance upon this factor, but that it would be prudent to do away with it we very much doubt.

In the Association of Physicians a paper was read by Dr. Lusk upon the remote effects of the removal of the ovaries and tubes, which was followed by a discussion in which the too frequent performance of the operation was severely condemned. Case after case was given in



which cures had been made, and many in which the gravest results had followed. The consensus of opinion was that the operation should not be performed unless it could be fairly shown by examination that structural disease actually existed in these organs. The great difficulty, however, to my mind, is the fact that some operators have such fertile imaginations that they can discover disease both before and after operation where individuals blessed with the ordinary amount of common sense cannot find it.

A paper was read by Dr. Stewart, of Montreal, upon nerve-stretching as a remedy for inveterate cases of trigeminal neuralgia. He spoke of the fallacy of considering cases cured unless the patients had been kept some years under observation and no return had taken place. Five per cent. of cases had been cured by nerve-stretching and a much larger proportion had been temporarily relieved.

Dr. Delafield read a magnificent paper on the diseases of the kidneys popularly called Bright's disease.

He classified diseases of the kidneys according to the morbid processes under three heads: Congestion, degeneration, and inflammation. The latter he considered under three heads: Exudative, productive, and toxic. The classification seems to be a very valuable one, but it needs to be tried, when no doubt many defects will be discovered. It is impossible in this brief sketch to give even an idea of the paper. It should be closely studied by those interested in this important subject.

In the discussion which followed, Prof. Gairdner, of Glasgow, gave a very interesting history of the various changes which have taken place from time to time in our ideas upon this class of diseases. He was still inclined to adhere to at least one of the old subdivisions, viz., the separation of the intra-tubular from the interstitial variety.

Very interesting observations were made upon the question of testing the urine for albumen. The general opinion was that heat and nitric acid, separately and together, were the most reliable tests, and that the use of the more delicate reagents, as picric acid, chloroform, carbolic acid, etc., often leads to fallacious results, as by them a precipitate is often given when

pathological albumen does not exist in the urine. This matter is of special importance to those who examine for life insurance companies.

Thursday morning.

Dr. Morrow read a paper giving notes of the successful treatment of sears upon the scalp by the transplantation of skin from another portion of the scalp, or from another person. He punched a round piece of tissue out from the cicatrix going down to the subcutaneous areolar tissue; then he fitted in a similarly shaped piece punched out of the healthy scalp. He was quite successful in getting the hair to grow on the transplanted piece.

Dr. Morrow then read a paper on the treatment of alopecia areata. This was followed by a discussion, in which much difference of opinion was shown.

The great majority were agreed that there are two forms of the disease, a parasitic and a neurotic. One section of those present was of opinion that about 90 per cent. of the cases belonged to the former and 10 per cent. to the latter. Another section reversed these percentages.

Dr. Bulkley read a paper on the treatment of alopecia areata by the application of strong carbolic acid. He uses a 95 per cent. solution, applying first with a small swab, and then rubbing it well in; vesication is produced and in some cases the hair grows very well. The general opinion was expressed that there was no specific remedy, and that an important indication was the sustaining of the general health.

In the Association of Physicians a long and interesting discussion took place on "Intestinal Perforation in Typhoid Fever." In such cases as are really of the nature of appendicitis or a combination of the two conditions an operation might be useful, but in those where perforation takes place in other situations the cases are hopeless and ought not to be operated on.

On Friday morning Dr. Graham read a paper on molluscum contagiosum. A main feature was the presentation of a report of the microscopical examination of the tumors made by Dr. A. B. Macallum, of the Toronto University.

Dr. Stellwagon, of Philadelphia, then read a paper based on the history of two fatal cases of mycosis fungoid.

In the Medical Section a paper was read by Dr. Atkinson, of Baltimore, upon tachycardia in acute articular rheumatism.

In the discussion, Dr. Orde expressed the opinion that the pneumogastric nerve was particularly affected in rheumatism, and that the peculiarities of the pulse might be accounted for in that way.

The writer has given, in a very brief and imperfect way, a few of the points made at meetings he attended. Where there are so many sections, so many valuable papers are read at the same time that it is only possible for one to hear a very few.

On Wednesday evening, Dr. Weir Mitchell delivered his presidential address on the history of instrumental precision in medicine. As might be expected, the address was remarkable for the research made into old literature, and for its beautiful diction. One has rarely the opportunity of listening to such a charming and interesting paper.

A reception followed, which was largely attended.

On Thursday evening a dinner was held jointly by the Association of Physicians and the Association of Surgeons. Many of the English guests were present, and speeches of a complimentary character were made. Dr. Chiene was loudly applauded when he attributed the great success of the United States to the faith which the individual American had in his country and in his town or village, however small the latter might be. He not only looked upon his own town as the most successful in the Union, but looked upon himself as the principal agent in that success. A little more of the former kind of spirit might be of service in Canada.

The Congress has been a great success—quite equal, if not superior, to the first. There were, however, two drawbacks—the excessive heat and the very great length of some of the papers. To listen to two papers in succession, each of which was over an hour in length, and at the same time to fairly melt at a temperature of over 90°, is more than the average man can endure. When the papers are necessarily so very extensive, it might surely be possible to epitomize so as to bring them down to a reasonable length for reading.

Among the gentlemen present from Toronto

might be mentioned Drs. Reeve, Cameron, Nevitt, Machell, King, and Lehman. Drs. Gairdner, Orde, Sir Wm. MacCormack, Mr. Bryant, and Mr. Durham, were among the foreign guests. J.E.G.

## ORTHOPEDIC SURGERY AS A SPECIALTY.

BY A. B. JUDSON, M.D., NEW YORK.

The President's Address, delivered before the American Orthopedic Association at Washington, D.C., Sept. 22nd, 1891.

A flourishing medical society sometimes divides into sections. It is an involuntary process, or at least one to which the members are forced by the necessity of thoroughly accomplishing the objects of the society. The process may be called an analysis. In the present instance, however, if I understand the organization of the Congress of American Physicians and Surgeons, we have a synthesis. A number of societies voluntarily combine to secure ends which were not contemplated at the beginning of each. A division of labor having been made, according to which each society has its special work to do, it is proper and useful for the societies to meet together for co-operation. Let us, therefore, briefly consider some of the salient features which mark our specialty of orthopedic surgery. A better knowledge of ourselves will put us in more quick relation with other workers, both general and special, and enable us better to do our humble part in the grand plan.

In common with other specialists, we occasionally hear that we are limited in the possible range of our achievements. The limitation is, however, entirely voluntary, and the work within these limits is practically inexhaustible. If we were not so busy, we might perchance be troubled because we are not always and exactly understood. The sign before an orthopedic hospital in New York is supposed, by some of the passers-by, to indicate a homœopathic institution. I am probably not alone in having been asked to perform the minor surgical operations of the chiropodist. Many, even among the learned, suppose that the latter part of our name is derived from the Latin word for *foot*, instead of from the Greek for *child*. We are also confounded in the minds of some with the instrument makers. I mention these things

in passing, without a serious thought. If they exist, like morning mist, they will pass away.

It is well, however, to recognise the fact that our practice is comparatively lacking in popular qualities. We have no critical, capital, or brilliant operations. What of brilliancy is there in keeping a limb in such an attitude that the weight of the body in locomotion shall be a favorable, instead of an unfavorable, agent until the natural growth of the member results in comparative symmetry: or in controlling the environment of the diseased joint and the patient, so that the natural processes of recovery and repair shall have their triumph, while the limb is daily growing in symmetry and ability with the growing child? This is not bold surgery, but there is great pleasure in watching and reverently assisting these constantly recurring natural miracles. And will any of us forget the delightful friendships made among our little patients, their pretty bashfulness, their ready confidence, their irrepressible cheerfulness, their graceful acceptance of what is, alas, inevitable? The combination in them of childish and heroic qualities is a daily wonder. To watch them at play is like a dream in which the birds and wild flowers are enacting a tragedy and improving the precepts of Stoic philosophy.

Our practice is not only lacking in brilliant achievements, but it is also uninviting, because, as a rule, our patients do not make absolute recoveries. There is always, or nearly always, a residuum of disability and deformity, and in this is to be found perhaps one reason why our specialty has existence; for what general practitioner would lightly assume the care of a case so exceptional in his practice and so momentous as those which fall into our specialty?

The why and the wherefore of specialties in general, and ours in particular, are questions of interest. Some will say that we have a natural aptitude for mechanics, an inherited preference for slow and sure methods compared with those that are quick and uncertain, or an inborn reverence for what is physically demonstrable. These personal characteristics may explain why some of us are orthopedists, but I believe the reason why our specialty exists and thrives is to be found in the desire of the public, the final arbiter, that experts should be invited to bear the responsibility of orthopedic cases.

One very attractive feature of orthopedic practice is its *reality*—for want of a better word. It is especially the domain of physical demonstration, where the acceptance of pathological doctrine, as well as therapeutic precept, must be preceded by absolute proof. Here subjective symptoms are forgotten in the presence of objective signs. The data for diagnosis are visible, palpable, and mensurable. Treatment is by forces whose action is nicely directed, increased, diminished, and accurately measured. The very weight of the body is duly considered in trauma and therapeutics, and finally the results of the treatment are recorded in degrees of a circle and fractions of an inch. Dealing thus, as we do, with physical realities, it is well for us to keep our eyes open to the moral verities also, which no less form part of the tissue of our daily professional work. Let us remember that diligence is the price of success, and that the only desirable success is that which is reached by the rejection of error and the loyal recognition of truth.

Since our last meeting, there has occurred the death of one of our corresponding members whose hostility to error might, in all friendly criticism, be called intemperate, one whose diligence and devotion to the interests of his patients make him an exemplar worthy of our affectionate remembrance. But I will not trespass on the subject of the first paper of our session, which is by Dr. A. A. Steele, of St. Louis, on the orthopedic work of the late Mr. Thomas, of Liverpool.

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## Selections.

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### RINGWORM IN ELEMENTARY SCHOOLS.\*

BY MALCOLM MORRIS, F.R.C.S. EDIN.,  
Surgeon to the Skin Department, St. Mary's Hospital, London.

It is seldom that such an opportunity offers itself for the medical man, sanitarian, and educationist, to meet on a common platform as is offered by this special Section of the Congress, and it is a matter for congratulation that the Section is presided over by one whose knowledge of elementary education is probably unique. I have therefore availed myself of this

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\*Read in the Section of Infancy, Childhood, and School Life, of the International Congress of Hygiene.



occasion to express my views on a certain aspect of a disease of the skin which unfortunately is extremely common in this country. I am unable to produce trustworthy statistics of the proportion of children attending elementary schools who suffer from ringworm owing to the obvious difficulties of investigation, but I can, from personal experience derived from prolonged observation in the out-patient department in one of the large London general hospitals, and from confirmatory statements of colleagues at other hospitals, vouch that ringworm is far commoner in London than in any of the continental cities with which I am familiar. Although it is not my intention to dwell upon the medical side of the question at any length, it is yet necessary to say a few words about the nature of the disease in order to elucidate the subject.

Microscopic examination, cultivation and inoculation experiments, incontestably prove that all the phenomena of the disease, however varied in their clinical manifestations, are due to a fungus which invades the upper layers of the epidermis. This fungus consists of mycelium, representing the mature elements, and spores—so to speak, the seeds—which latter, either by personal contact or through the medium of the atmosphere, are capable of transplanting the disease on a suitable soil. The extreme contagiousness of the malady, which is familiar to every one, is thus accounted for. Many of the perplexities which arise are due to the difficulties in recognizing its earlier manifestations, which are too often regarded, both by parents and school authorities, as merely “scurfy-heads.” The same remark applies very often to the disease in its later stage, when cure is supposed to have been effected. When ringworm attacks the body it is quickly and easily eradicated, as the fungus lies quite near the surface; it is therefore only with ringworm of the scalp that I am concerned in this paper. Here its obstinacy to treatment is due to the anatomical fact that the fungus is present, not upon the surface of the skin only, but also around the roots of the hairs in the deep hair sacs or follicles. This fully accounts for the difficulty in effecting anything like a rapid recovery, even in most favorable circumstances; while among the poor, owing to indifference, lack of time and

skill, the disease is certain to last for many months, and not infrequently for years. In this respect it shows a marked contrast to all the other contagious skin diseases of children—as, for example, scald head, the itch, and other animal parasitic disorders, which yield quickly to suitable treatment. The question now arises, What is the present attitude of the authorities with regard to the disease? To this no satisfactory answer can be given, as no line of conduct is uniformly pursued.

On the one hand, the schoolmaster who is watchful and zealous as to the physical well-being of the children under his charge refuses to admit a child with ringworm to his school; whereas, on the other hand, he who is lax is apt to overlook or minimize the importance of the disease. In both cases, in my opinion, a grievous injustice is committed; for in the former case a child, presumably in good health, is banished from school and all its advantages, both moral and educational, for a prolonged period, at a time of life when these are essential to its well-being; in the second case the spread of the disease to other children is inevitable, and the community at large, as well as the individual children, must suffer. Of these alternatives, from a medical point of view, the former is the only logical course, though its effect must of necessity be a marked diminution in the general standard of national education and the reduction of the educational returns. It can hardly, I think, be questioned that it is the duty of the State to remedy this, and I would suggest the following practical recommendations as the only ones which have suggested themselves to my mind as offering any solution of the difficulty. It is clearly necessary before attempting to cope with the disease that the exact extent and frequency of its occurrence should be estimated. This can only be carried out by means of *systematic inspection*, in order to accomplish which persons should be trained in each school by skilled medical men to make a weekly examination of every child's head. By this means alone trustworthy statistics would soon be obtained. My second recommendation is directed toward the eradication of the disease without interrupting the educational progress of the child. In the more crowded districts, or wherever feasible, special schools ought to be

established, in which both systematic treatment and instruction could be carried out. In less populous districts a single class-room might be isolated, with a separate entrance. If such a system could be enforced, the advantages would be that the education returns would at once show a marked improvement, that the children would no longer be deprived of their just privileges of education, and that ringworm would be materially diminished in this country, if not entirely eradicated.—*Lancet*.

SEA SICKNESS.—Sea sickness is one of those minor miseries of existence for which there appears to be no cure. Many have been loudly trumpeted, but none have really succeeded in susceptible persons. As a matter of fact, very little serious study has been given to the subject; persons who do not suffer are apt to despise those who do, and persons who do suffer are too glad to forget their misery to be disposed to give any thought to its source. Professor Rosenbach, of Breslau, has recently published a small monograph,\* the outcome of observations and study of the phenomena of sea sickness extending over ten years. He gives his experiences in the form of theses, which he uses as the basis of his explanations and arguments as to the nature of the disease.

His arrangement of facts is as follows: (1) The malady commences as soon as the vessel pitches, that is, rotates on its transverse axis. (2) The rolling, that is, rotation on its long axis, is less severe, but the combination of the two is very unfavorable. (3) The phenomena appear more quickly and are more severe the further the patient is from the middle of the ship. (4) Persons sleeping are attacked, also small children and animals. In small boats without sails very sensitive persons may be affected; when sails are used sickness is more likely to occur. (5) A moderate amount of food in the stomach and a small quantity of alcohol is more likely to act as a preventive than an empty stomach. (6) The horizontal position on the deck acts in some degree as preventive. (7) Anxiety and apprehension precede sickness; a certain exhibition of energy and resolution may in short voyages and with slight vessel motion control

the tendency to sickness. Soft winds (for example, sirocco), strong odors, etc., are unfavorable. (8) There are two categories of the affection dependent on individual predisposition: in one the head, in the other the abdomen is principally affected. Cases where both are affected are common.

In regard to intensity: (a) Some women begin to feel uneasy from the beginning of the voyage, in perfectly smooth conditions of the surface; they are pale, and have no appetite. There is a certain dread also. It is questionable if they are cases of sea sickness. Perhaps they represent the purely psychical form. (b) In another variety there is a general irritation of the nervous system during the whole voyage. The digestive organs are unfavorably affected. (c) This series forms a transitional variety. Slight motions of the vessel affect sensitive persons and produce sickness with general loss of appetite, indisposition to move or speak, and painful sensations in the head or abdomen. These symptoms are a delicate reagent to the disturbing action of the vessel.

As to the *theories* of the disease, they are arranged under three heads: (1) The psychical theory (so named by the author), according to which all the symptoms are produced through the action of certain sensory organs upon the consciousness, giving rise to uncomfortable or unwonted sensations of disturbed equilibrium. (2) The theory of disturbed equilibrium, according to which the permanent disturbances of equilibrium act as painful irritations to the contents of the skull and of the abdomen, and are thus the causes of the phenomena. (3) The theory of the disturbance of the circulation, according to which the disturbances of equilibrium and the swinging motions of the body produce circulatory disturbances in certain parts.

As regards the psychical theory, the arguments generally adduced in its favor are: (1) That the sight of the pitching vessel and of the up and down motions of the vessel favor the occurrence of sickness. (2) That the abnormal effects do not occur with the eyes shut. (3) That sleepers generally escape. This conclusion the author rejects, for he states that energetic will and closure of the eyes do not quite succeed in warding off the attack.

\**Studien über die Seckrankheit.* Von Dr. O. Rosenbach, Professor an der Univ. in Breslau. Pp. 60. Berlin: Hirschwald. 1891.

The action of visual disturbances in inducing the sickness he considers very important, but only secondary as factors in the result. That the sufferer may be roused from sleep in a full paroxysm of the attack; that children at the breast and young children suffer, though less than adults; and that horses, who in their boxes do not see the movements, also suffer—these facts prove, the author states, that the external mechanical influences alone must be the cause of the sickness. These facts, on which the author seems to rely for his conclusions as to the secondary importance of visual disturbances, if in themselves correct, do not appear to demonstrate that visual disturbances were absent in the cases mentioned, and it is to be remarked that in a note the author speaks of closure of the eyes or avoidance of the sight of the mast and bulwarks of the ship as being of great assistance in preventing the attack.

The third theory—that of circulation-disturbances—the author rejects. The second theory is particularly developed, and the disturbing effects of various kinds of unwonted movement are described and analysed. Thus, it is shown that backward travelling may produce illness, pains, even vomiting. The motion in swings, the effects of circular motion, are next described. The effects of rapid upward or downward motion have been particularly experimented on by the author in the rapidly-moving American elevators. The author thinks that he has discovered a new and substantial explanation of the action of external movement impulse by the phenomena observed in rapid elevators. It is found that in ascending with the eyes closed, no noise being heard, there is experienced a peculiar feeling at the epigastrium which goes off during the rise, say, of four or five floors, but reappears the moment the elevator stops. The same thing occurs when the elevator moves downwards, the sensation being felt only at the outset and on the arrest of the motion. In the motion of the elevator there occurs a sudden movement and sudden arrest of the movement, and the effect of this in producing the epigastric disturbance is held to be analogous to the effect of the motion observed in the vessel at sea. This explanation furnishes a theory which the author accepts because it covers the ground to the necessary extent. Further, the author is led to

the conclusion that the complex symptoms of sea sickness are due to the molecular disturbances produced by rapid movements arising from sudden change of direction of the motion, whereby a severe intramolecular shaking and irritation, primarily acting on the cells and the protoplasm of particular organs, is produced.

The immediate transition from one movement to another movement in a different direction is assumed to be the cause of the disturbances experienced. Thus the painful sensations in sea sickness, in the act of swinging, in the oscillation liable to occur in rapid railway journeys, agree in this, that the peculiar symptoms of irritation, the distressing feeling at the epigastrium, the cold sweats, the general feeling of illness, and the headache, appear at the moment when the direction of the movement changes.

As regards the cure of sea sickness, the authors consider that the only real cure is "custom." He speaks favorably of certain medicines as being often operative for very short sea voyages—quinine, antipyrin, bromide salts, cocaine, morphine, chloral, and other anæsthetics. He speaks with approval of the advice of older writers that the horizontal position at mid-deck should be taken before the voyage begins, and that a bandage should be tightly placed over the liver, whereby the intensity of the motion is diminished, and a certain degree of fixation of the abdominal contents promoted.

Professor Rosenbach has made a most valuable and suggestive contribution towards the solution of the much-vexed question as to the nature and cause of sea sickness; and, no doubt, his views will excite discussion calculated materially to advance our knowledge of the subject.  
—*British Medical Journal*.

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ON CORNS UNDER THE NAILS. — A corn consists, I suppose, of a mass of much thickened and horny epidermis, under the centre of which, and probably in part as its cause, there is some hypertrophy of papillæ. In warts the hypertrophy of the papillæ is very great, and there is comparatively little excess in the accumulation of epidermis. In the corn the indurated epidermis completely conceals the overgrown papillæ, but it would be, I suspect, a mistake to believe that there is no overgrowth of the latter. Those who have attempted to



pare down corns well know that at a certain depth a very sensitive and vascular structure is reached, and in many this is decidedly above the level of the surrounding skin. Corns, according to an observation which was, I believe, originally made by Hunter, usually result from intermittent pressure. If the pressure is continuous, atrophy rather than hypertrophy results; but if it is intermitted there is an opportunity for the structures which have been made vascular by recent pressure and irritation to take on overgrowth. It is somewhat difficult to apply such an explanation to the development of corns under the edges of nails. It is, however, an unquestionable fact that they do sometimes form in this position.

A young lady named S—, aged about 25, was under my care for some time on account of a most troublesome growth under the edge of one of her finger nails which had all the characteristics of an ordinary corn. It was very hard, and had somewhat lifted up the edge of the nail.

I pared away both the nail and the corn under it, and then applied strong nitric acid. A sore resulted which took some time to heal; but the end was a complete cure.

The nail of one of her little toes had been quite destroyed by a corn under it.—*Hutchinson's Archives of Surgery*.

PERIPHERAL NEURITIS IN DIABETES.—In a communication by Auché, of which a summary is given in the *Neurologisches Centralblatt*, the author refers to the fact that although there is strong clinical evidence of the existence of peripheral neuritis among diabetics, no absolute proof that the condition giving rise to symptoms of neuritis is really one of inflammation of the peripheral nerves has as yet been brought forward. This, however, is the view which the writer adopts, and which he proceeds to prove by means of his own observations and those of others, embracing almost every form of disturbance of the nervous system occurring in diabetics. He also cites his histological observations, showing widespread inflammatory processes in the peripheral nerves. In the summary of his views of the subject, the author states that the upper extremities are attacked with less frequency than the lower, that the affection is mostly bilateral, but may be one-

sided, that the functions of the bladder and rectum are unimpaired, and that atrophy and the reaction of degeneration are present in the affected muscles. Sensory disturbances, consisting of pains, hyperæsthesia, paræsthesia, or anæsthesia, frequently precede motor troubles, but may accompany them, or may occur alone. Vaso-motor troubles, such as hyperidrosis, œdema, shiny skin, and ecchymosis, may also be present as well as trophic disturbances, such as perforating abscesses, local atrophy of skin, falling off of nails, etc. The loss of knee-jerk which occurs in some cases of diabetes is to be ascribed to neuritis. The author, in conclusion, refers to the generally accepted opinion that the nervous symptoms are not at all proportional to the quantity of sugar in the urine. Some researches which he made as to the effect of injections of saccharine solution in the vicinity of the sciatic nerve led him to conclude that sugar was not the active agent in setting up changes in nerve; but that such changes are more probably to be ascribed to the presence in the blood of acetone or of some as yet undescribed chemical substance.—*Lancet*.

STAINING BACILLUS OF DIPHTHERIA.—The following is Dr. Sims Woodhead's process for staining the bacillus of diphtheria: "It is only necessary to remove a small fragment of the false membrane by means of a piece of absorbent cotton tied firmly to a pair of forceps; from this it is transferred to a scrap of blotting-paper, and thence to a cover-glass, where it is broken down as finely as possible, heated over the flame in the ordinary fashion, and stained with Löffler's alkaline methylene blue, or by a method adopted by Roux and Yersin, who use a blue composed of equal parts of aqueous solution of violet dahlia and methyl green, with water added until a clear, but not too deep, blue is obtained. A drop of this is placed on a slide, the cover-glass on which the fragments are dried is inverted and lowered on it, the superfluous fluid is removed with a piece of blotting-paper, and the organism is examined at once. The organisms occur in small groups, as short, straight, or curved rods, with ends sometimes pointed, sometimes curved."—*St. Louis Med. and Surg. Jour.*

THE MARKINGS ON THE FINGER-TIPS.—Dr. D'Abundo has published the results of some researches on the markings on the tips of the fingers. He examined the fingers of seven idiots, and found that the markings on the tips of all the fingers on each hand were identical, thus showing a marked difference between those of idiots and of sane people. The thumb-tips of one idiot had the same markings as those on his fingers. There was a noticeable smoothness of the finger-tips in all the idiots. In one case Dr. D'Abundo remarked a perfect resemblance between the markings on the fingers of an idiot and on those of his mother. Out of twenty cases of imbecility, Dr. D'Abundo found in four only one sort of tracing on all the fingers; in the rest there was a tendency to repetition on almost all the fingers. In hemiplegia, when the lesion was of old standing, he noticed in the part affected a distinct smoothness of the finger-tips, which prevented him from obtaining a clear-cut impression. From a medico-legal point of view, these researches may ultimately have an important bearing on crimes of a sanguinary nature. For instance, if drawings were taken of the impression of a hand bathed in blood the markings would be most clear, more especially if the criminal had not merely laid his hand on any papers, but had actually fingered them. The evidence of crime would be still more valuable if the criminal had some cicatrix or deformity on the fingers.—*Lancet*.

PAINFUL CONCOMITANTS OF DEATH FROM RODENT CANCER.—It is scarcely possible to exaggerate the horrors of a death from rodent cancer of the face. By slow degrees the nose, cheeks and facial bones are all eaten away; and the patient becomes an object of disgust to all about him. He may lose both his eyes, and may become quite unable to make himself understood in speech; yet he lingers on from year to year, and has to die simply from a failure of strength which is to be brought about with extreme slowness. I have seen several such cases in which the patient and all his friends were longing for his release several years before it came. In one such, a gentleman of the highest intelligence, and of intellectual tastes in various directions, lost in succession

his speech, his sight, his smell, and his hearing. He was able to swallow only fluids, or solids which had been pounded. Yet in this lamentable condition he continued to live on for several years. The whole duration of his disease from the beginning was twenty years, and, being a man of remarkable vigor of constitution, he lived in spite of it till he was 77. Such being the ultimate realization of this malady, it is impossible to lay too great a stress upon the necessity for early and efficient treatment. It is in the earliest stage only that measures can be adopted which will be radical and efficient. Yet, but too often, while the growth is small and apparently insignificant it is either wholly neglected, or is attacked only by imperfect operations.—*Hutchinson's Archives of Surgery*.

MENSTRUAL ODDITY.—Dr. T. Marion Duragan, of Kerens, Tex., reports the following case: Frankie C., colored, mother of ten children, and another *in utero*, assured me that she never menstruated in her life, and was nineteen years old and the mother of two children before she knew that such a phenomena was characteristic of woman (for such ignorance, she being a simple member of her race is fully accountable). She is an unusually stout and healthy woman, does hard labor constantly for her living, and the only inconvenience she experiences is an occasional "swimming in the head," which does not trouble her enough to notice.

Such an oddity, besides being an *oddity*, is interesting from the fact that it proves conclusively that *menstruation* and *ovulation* are not essential to nor dependent upon each other. *Archives of Gynecology*.

ETHERIZATION IN LARYNGEAL CROUP.—Dr. Freid Betz (*Memorabilien*, April 18th, 1891) reports the case of a child, aged eighteen months, that presented the typical symptoms of laryngeal croup. The case appeared so hopeless that tracheotomy was, although proposed, rejected. Dr. Betz then proposed "etherization." Three drops of a mixture of ether sulph. 3 parts, acetic ether 1 part, menthol 0.1 part, were ordered to be inhaled every quarter of an hour, just as chloroform is inhaled. It was hoped that the cold from the evaporating mix-

ture would contract the surface blood-vessels of the larynx, and thus reduce the œdema present. The child was seen again in two hours, and the condition had somewhat improved. The etherization to be continued, 3 to 4 drops every half hour. After six hours the condition was unmistakably better; so much so, in fact, that the etherization could be dispensed with. A piece of intestine filled with ice was placed round the child's neck. After this, progress was so rapid that in twenty-four hours the child was out of danger. In desperate cases one would think the application in this way would not be likely to do any harm, and it would in any case lessen sensibility, and to some extent the torments incident to such a dreadful disease as laryngeal croup.—*Archives of Gynecology*.

THE TREATMENT OF RANULA.—Dr. B. Hernandez Briz, of the General Hospital, Madrid, writing in *La Andalusia Médica* on "Ranula in Children," mentions a case of one of these tumors which was as large as a hen's egg, and which he cured in a very simple way. Intending to empty it, he inserted the needle of a common hypodermic syringe into it in order to employ aspiration. The contents were, however, evidently too thick to come through such a fine tube. He then filled the syringe with a mixture of ten parts each of tincture of iodine and water, with one part of iodide of potassium, and injected fifteen minims of this mixture. Three days later the tumor was decidedly smaller. A second similar injection was given, and when the child was next seen, three days afterwards, the ranula had almost disappeared. Several months have now elapsed, and there is no sign of the return of the tumor.—*Lancet*.

HYPEREMESIS GRAVIDARUM.—Ward (*Med. News*, April 11th, 1891) says: Without pretending to possess an infallible judgment, or powers of discretion above the average, my deliberate opinion is that after a few days' use of oxalate of cerium, of Fowler's solution of arsenic alone or combined with the deodorized tincture of opium, morphine, with or without cocaine (hypodermically or not), restricted diet, popcorn (a homely remedy, but one I have seen used with good effect), absolute rest in bed, rectal feeding, correction of uterine displacements,

should such exist, with local applications—I say, after using each of these for a few days and failing to relieve the patient, I would then dilate the os uteri, and this likewise failing, would stop treating symptoms and proceed to attack the disease at its headquarters, viz., in the uterus, and before a great febrile rise, before the brown tongue, the glazed and reddened buccal cavity, the anxious facies, and delirium warn us of the rapid approach of the "grim monster," this must be emptied, or so treated that it will empty itself, always providing that one of our former procedures—dilatation—has not already brought about such a consummation.—*Archives of Gynecology*.

THE USE OF PURE BENZOLE IN WHOOPING-COUGH.—After some years' experience of the use of benzole in whooping-cough, I can safely say that it effects better results than all the other remedies recognised as useful in this affection. In the adult and child it is of equal benefit. In an infant just now under treatment the attacks have been reduced from twenty to thirty in the night to two or three, and whereas when the treatment was begun evidences of bronchitis were present, now the chest is clear and the child able to be taken out of doors daily. All this improvement was brought about in less than ten days. I have administered benzole in whooping-cough, where convulsions and other complications were fast reducing all chances of recovery, with perfect success in a few days. In adults, where pertussis assumes often serious aspects, benzole has proved equally efficacious. Two minims in mucilage are sufficient for a child six months old, and five minims in mucilage on sugar or in capsule for adults. I am indebted to an article in the *Practitioner* of some years back for information regarding this treatment, and can heartily recommend a trial of it. Whenever the benzole odor is observed in the breath of the patient, then all anxiety as to the result may be allayed.—*W. Robertson, M.D., Glasgow, in the Lancet*.

THE *Medical Press and Circular* says that for every 100,000 inhabitants, there are 14.4 medical students in France and Germany, 23.8 in Austria, 26.7 in Holland, 24.2 in Belgium, and 20.6 in Italy.



# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, OCTOBER 1, 1891.

## THE HEALING OF TUBERCULOSIS.

The following *excerpta* from a paper read by Dr. Wm. Osler before the last annual session of the Medical and Chirurgical State Faculty of Maryland are interesting. The title of the paper was "The Healing of Tuberculosis." He draws a clear distinction between the puckered cirrhotic depressions found, at the apices more particularly, in the lungs of so many elderly persons, the *cicatrices complètes* of Laennec, which may or may not indicate a healed tuberculous spot; and the *cicatrices fistuleuses*, fistulous scars, which always indicate tuberculous process and often have tubercles, more or less numerous, diffused about them, and which are only in a quiescent state, surrounded by a fibrous zone of separation, and communicating with a bronchiole. The *cicatrices complètes* or masses of fibrous tissue contain no tuberculous matter, and it is not yet settled whether or not they always or even often represent a tubercular lesion that has been cured, not simply rendered quiescent. Dr. Osler then goes on with some very interesting statistics: "Heitler, of Vienna, found in a long list of *post mortems* of cases in which death was not due directly to phthisis 47 per cent. of obsolete phthisis. With each decennial period up to the sixtieth year, the number of cases increased. Bollinger found in 27 per cent. of 400 bodies evidences of tubercular lesions in the lungs. Staudack, in 737 cases, found apical cirrhosis in 202. Massini found evidences of healing in 39 per cent. in 223 bodies examined. Harris, of Manchester, found in 139 cases, 54, or 38.84 per cent., in which there were relics of former active tuber-

culosis. The greater number of these were in the 3rd, 4th, and 5th decades. In the Paris morgue it is said that 75 per cent. of suicides and those accidentally killed present evidences of old tubercular lesions. These facts demonstrate, first, the widespread prevalence of tuberculosis, and, second, the fact, as shown by the above figures, that at least one-fourth of all infected persons recover spontaneously." He then goes on in an interesting way to point out the vast importance, in the light of these facts, of proper hygienic surroundings, as has been proved experimentally with rabbits, confined and not confined. "A patient confined to the house in close, overheated rooms, or in the stuffy, ill-ventilated dwellings of the poor, or even in hospitals, does not stand the chance with the patient in the fresh air and sunshine all day long. The home treatment of consumption is important. Fresh air and sunshine is all-essential. Altitude is a secondary consideration in comparison with these." In the same paper, Dr. Osler gives a concise statement of the opinion formed at Johns Hopkins of the Koch treatment: "Koch's lymph, or tuberculin, has a very limited use. (1) In a limited number of cases with early local lesions and not much constitutional disturbance, its use seems beneficial; the cough disappears, the patient gains in weight, and the local signs improve. In none of these, however, after four months' treatment, can we say there is a cure. (2) In cases with more advanced lesions, particularly with consolidation, the febrile reaction induced is severe, the local condition is aggravated, and the patients lose ground, often with rapidity. (3) In advanced cases, with cavities and irregular pyrexia, the remedy is most injurious, and aggravates every feature of the disease."

## THE INTERCONTINENTAL AMERICAN MEDICAL CONGRESS.

The time and place for the proposed Pan-American Congress will probably be settled at the meeting of the Committee on Organization, which will be held at St. Louis, October 14th, 1891. There seems but little doubt that the meeting will be held in 1893, *i.e.*, the year of the Columbian Exposition in Chicago.

The New York *Medical Record* speaks as

follows with reference to the place of meeting: "There will probably be less unanimity concerning the place of meeting, although we think there is but one city where it can be held. Chicago should by all means not be selected. It will be crowded with strangers off on a holiday and devoting their entire energies to sight-seeing and amusement, and its atmosphere will not be congenial to scientific thought. Doubtless, all those taking part in the deliberations of the Congress will want to visit the Fair, but they can do this before or after the medical work. Most of the Mexican visitors to the Congress would probably reach this country by rail, but those from the West Indies and Central and South America would all come by sea and, with the exception of a few coming by San Francisco or New Orleans, disembark in New York; so that the objection of entailing the fatigue and expense of an extra journey on the members, if the meeting were not held in Chicago, cannot be raised. The Congress is to be an American meeting, held in the United States as being the leading American country, and will without doubt be endorsed by the Senators and Representatives in the next Congress as being under government patronage. In such cases, therefore, it seems to us that there is but one city in which the Congress, the first one at least, should be held, and that city is Washington, the capital of America."

#### THE MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

This meeting, which was held in New York, September 17, 18, and 19, was highly successful in all respects. The attendance was fair—the largest, we understand, since the Association was organized—and the discussions excellent. A cordial invitation to come to Toronto next year was received and carefully considered, but it was thought better to wait until 1893 or 1894. St. Louis was chosen as the next place of meeting, the time to be decided hereafter; it will probably be in the latter part of the month of September. The following Canadians are now Fellows of the Association: Drs. I. H. Cameron, Nevitt, J. F. W. Ross, Machell, and A. H. Wright, of Toronto; Dr. Griffin, of Hamilton;

Dr. Howitt, of Guelph; and Dr. Praeger, of Nanaimo, B.C. All were present at the meeting, and, in addition, Dr. Rosebrugh, of Hamilton; Dr. Mackinnon, of Guelph; and Drs. Jas. Ross and Elliott, of Toronto.

#### CANADIAN MEDICAL ASSOCIATION.

The recent meeting of the Canadian Medical Association was a very good one in many respects, although the numbers were not as large as they should have been. The representation from Western Ontario was small—much smaller than it should have been. We have before referred to a combination of circumstances which had considerable influence in this direction.

Those who attended from a distance were delighted with the treatment they received from the Montrealers, who well upheld their reputations as magnificent hosts. We hope to be able to give a report of the meeting in our next issue.

#### Meeting of Medical Societies.

##### HURON MEDICAL ASSOCIATION.

The quarterly meeting of the Huron Medical Association was held in the Y.M.C.A. Hall, Seaforth, on July 14th. There were about thirty members in attendance. Dr. Smith, Seaforth, occupied the chair.

Morning session, 9.30—12 o'clock.

Dr. McLachlan, Auburn, read a paper on Sciatica. Dr. B. E. McKenzie, Toronto, took up the general treatment of Spinal Curvature, explaining his methods on cases presented at the Association. Dr. J. F. W. Ross, Toronto, described the operation of Hysterectomy, and exhibited several specimens of Uterine Fibroids and Extra-Uterine Foetation which he had removed. Dr. Taylor, Goderich, showed a case of Ulceration of the Rectum.

Afternoon session, 1.30—5.30 o'clock.

Dr. Gunn, Clinton, showed several specimens of Calculi removed by the lateral operation. Dr. Milne, Blyth, presented a case of Multiple Neuritis where the brachial plexus was principally involved. Dr. Holmes, Brussels, showed a case of probable Anterior Poliomyelitis where one arm only was affected. Dr. Gunn exhibited

a case that resembled tumor in the base of the brain. Dr. Amos, Exeter, showed a case of Rheumatism. Dr. McKenzie described his favorite methods of treating club-foot and hip-joint disease, illustrating the same by cases presented by different members. Dr. Ross gave practical demonstrations of Intestinal Anastomosis, and related the history of dogs that he operated on. Dr. Wood, Mitchell, reported several cases of Erysipelas in Infants which had recently come under his observation.

A vote of thanks was tendered to Drs. Ross and McKenzie for their presence and contributions to the programme.

A resolution was passed expressing regret that Dr. Sloan, of Blyth, had left the county, he having been for many years one of the most active workers in connection with the Huron Medical Association.

The next meeting will be held in Clinton.

## Correspondence.

Editor of THE CANADIAN PRACTITIONER :

SIR, —A rather unique experience in twins has fallen to my lot since 18th February last, as out of twenty-five consecutive confinements four have been plural births.

The children were two pair of females and two pair male and female; all came to full term, and seven of them are to-day living and all fairly healthy.

The mothers were all multiparal, healthy, of medium size, an average age of about thirty-three, had all resided in Manitoba and within a radius of three miles of Oak Lake for the past three years.

This I consider "speaks volumes" for the productiveness of Manitoba; and when the next decennial census shall have been taken, our politicians will have slight cause to complain of deficiency of increase in so far as this part of the Dominion is concerned.

Your correspondent, having been blessed with one of the pairs in his immediate household, may possibly account for his interest in the matter of twins.

H.H.W.

Oak Lake, Man.,

Sept. 5th, 1891.

## Book Notices.

*The Souvenir edition of the New England Medical Monthly.*

The *New England Medical Monthly* is well known as one of the most able and most successful medical monthly journals published on this continent. The September number is the last of the tenth year of its existence, and an extra effort has been made by the editors and publishers to present a very attractive issue. A rather novel feature is introduced in inserting the portraits of its editors and principal contributors. The *Souvenir* edition, as it is termed, is in all respects creditable to both editors and publishers, and to the latter we have much pleasure in extending our hearty congratulations.

## Personal.

DR. A. H. BARBOUR, of Edinburgh, is at present staying in Toronto, where he is the guest of Sir Daniel Wilson. He leaves October 6th for the Pacific Coast, on his trip round the world.

## Therapeutic Notes.

PRURITIS ANI.—Kelsey prescribes acetate of potassium, ten grains three times a day internally, and a ten per cent. solution of nitrate of silver locally, to be followed by the following ointment :

|                        |   |   |   |            |
|------------------------|---|---|---|------------|
| R.—Menthol             | . | . | . | 1 drachm.  |
| Simple cerate          | . | . | . | 2 ounces.  |
| Oil sweet almonds.     | . | . | . | 1 ounce.   |
| Carbolic acid          | . | . | . | 1 drachm.  |
| Powdered oxid. of zinc | . | . | . | 2 drachms. |

M. Sig. Apply morning, noon, and night, after cleansing the parts.—*Med. and Surg. Rep.*

CHOLELITHIASIS :

|                 |            |
|-----------------|------------|
| R.—Sod. Benzoat |            |
| " Salicyl.      |            |
| Pulv. Rhei.     | aa. gr. v. |
| Pulv. Nuc. Vom. | gr. 12.    |

Take at meal times.

—Huchard



## ERYSIPELAS :

|                     |    |
|---------------------|----|
| R.—Ichthyol . . . . | 1. |
| Collodion . . . .   | 2. |

Apply to the affected part.

## VOMITING OF PREGNANCY :

|                       |      |
|-----------------------|------|
| R.—Menthol . . . .    | 1.   |
| Spts. Vini. Rect. . . | 20.  |
| Aq. dist. . . . .     | 150. |

Tablespoonful every hour.

—*Gottschalk Frauenarzt, 1891.*

SALOL is the best of the intestinal antiseptics, because it is always well borne by the digestive tract ; it is but slightly soluble, and is decomposed into carbolic and salicylic acid only in an alkaline medium, *i.e.*, in the intestine. Iodoform and naphthol, which are always toxic and irritant, are much inferior to it, for it is but slightly toxic. Almost equally valuable is the salicylate of bismuth, which acts on both stomach and intestine.

|                    |            |
|--------------------|------------|
| R.—Salol           |            |
| Bism. Salicyl. . . | •          |
| Sod. Bicarb. . . . | aa. ʒiiss. |

Div. in caps. xxx.

—*Dujardin Beaumetz.*

## TREATMENT OF NOCTURNAL INCONTINENCE OF URINE.—

Dr. Van Tienhoven (*Gazzetta degli Ospitali*, No. 51, 1891) regards nocturnal incontinence of urine as dependent upon weakness of the sphincter. As soon as a few drops of urine reach the prostatic portion of the urethra, the detrusor urinæ contracts and expels the urine. Proceeding from this hypothesis, the writer made the children under his treatment sleep with their pelvis elevated, in order that the bladder may retain a quantity of urine before it reaches the neck of the bladder. From experiments made upon the bladders of cadavers of children with the pelvis elevated, he found that into the bladder of a three-year-old child one may inject six hundred drops, and one thousand drops into that of a ten-year-old child, before the liquid rises up to the neck of the bladder. Fourteen children treated by this method (thirteen males and one female) were cured after an average period of treatment of forty-two days, with only one relapse.—*Cincinnati Lancet-Clinic.*

## DERMATOL A COMPETITOR OF IODOFORM.—

Dermatol is a basic combination of gallic acid with bismuth, of a saffron-yellow color, and extremely like iodoform in appearance. It is a fine powder, is not hygroscopic, decomposes with difficulty, is insoluble and antibacterial, possesses the peculiarity of drying up the secretions of wounds, does not irritate the skin, and last, but not least, is odorless. It is suggested as a substitute for bismuth in stomach as well as in intestinal diseases, especially in profuse diarrheas dependent upon ulcerations of the mucous membranes.—*Cincinnati Lancet-Clinic.*

SEMMOLA reports ten cases of pulmonary tuberculosis treated by hypodermic injections of blood serum from the dog. Six seem to have been benefited. Whilst no positive deduction can be drawn from these cases, he believes this method of treatment is a step in advance. In his opinion, the safest method of treatment is to modify the soil on which the organism subsists, by which means the fructification of the tubercular bacilli is checked and the disease is overcome.

TERAY, who has been experimenting on the physiological action of the bitters, finds that cetrarin (the bitter principle of Iceland moss) increases both gastric and intestinal peristalsis. He has therefore administered it in various forms of disease in which anorexia and constipation are prominent symptoms. Especially striking have been the results in cases of chlorosis, in which he gave it in  $1\frac{1}{2}$  grain doses twice a day before meals.

GOODHART, in the *American Journal of Medical Sciences*, says that to order dialyzed iron for cases of chlorosis is to play with the remedy and to waste time. The saccharated carbonate of iron, or reduced iron, in half drachm doses or more, three times a day, for at least six weeks, will cure such cases.

ALON acts as slowly when given hypodermically as by the mouth. Given hypodermically, it is excreted from the blood chiefly into the bowel, where it is gradually decomposed into a more active body. This also explains its slowness of action.—*Brit. Med. Jour.*

DR. JOHN STRACHAN, in the *Provincial Medical Journal*, says that the circumstances which exclude salines, with all other purgatives, are inflammation and probable perforation of the vermiform appendix, perityphlitis, and peritonitis from perforation.

DR. MONCORVO, in the *Bulletin Général de Thérapeutique*, states that in one case of incipient chorea in a little girl, the choreic movements ceased entirely after five days' use of exalgine; 20 centigrammes having been given daily. On the strength of his observations, Dr. Moncorvo strongly recommends the use of this drug in pædiatrics.—*Med. and Surg. Reporter*.

### Miscellaneous.

DETROIT GYNECOLOGICAL SOCIETY.—At the August meeting of the above society, Dr. Jenks announced the sad news of the death of our honored corresponding Fellow, Dr. George A. Tye, of Chatham, Ont. The President, Dr. A. W. Imrie, appointed a committee to draw up suitable resolutions, and the following were read and adopted at the September meeting:

Whereas this society has learned of the recent death of Dr. George A. Tye, of Chatham, Ontario, one of its distinguished corresponding Fellows, who has met with us on several occasions and has furnished valuable contributions to our transactions, we desire not only to pay a tribute to his memory, but to express as far as possible our appreciation of his many sterling qualities as a man and of the enviable distinction he had attained as a physician and surgeon.

Resolved: That we deeply deplore his loss to the profession he had so long adorned.

Resolved: That we recognized in the character of Dr. Tye the attributes of an accomplished physician and valued friend.

Resolved: That the family and friends of our late brother have our heartfelt sympathy in their bereavement.

Resolved: That a copy of this preamble and the accompanying resolutions be forwarded to the family and, for publication, to the medical journals of Ontario and Detroit.

E. W. JENKS, M.D.,

H. A. GERRY, M.D.,

Committee.

After the reading of the resolutions, an eloquent and touching tribute was paid to the memory of Dr. Tye as a friend, a physician, and a Fellow of this society.

(Signed) H. A. GERRY, M.D., *Secretary*.  
84 Lafayette Ave.,  
Detroit, Mich.

ON TAKING FLUID WITH MEALS.—I observe with pleasure that the verdict of general experience and common sense has been confirmed by scientific experiment in the matter of taking fluid with meals. Dr. Lev. O. Stratievsky, of St. Petersburg, after elaborate trials, has found that fluids materially assist the assimilation of proteids, and announces the following conclusion, which it is to be hoped no future experimenter will controvert:—

"On the whole, the widely-spread custom of taking fluids during or just before one's meals, proves to be rational and fully justified on strict scientific grounds."—*Hutchinson's Archives of Surgery*.

AN IODOFORM SQUABBLE.—The amount of iodoform used in the Paris Hospital is something extraordinary. The authorities contracted for a supply of 48,000 kilogrammes (about 24 tons) at the beginning of the year, but by last month the supply had run out, and the surgeons were asking for more. It was not, however, until one of them, irritated by the hesitation of the authorities to accede to his demand for a further supply, purchased some at his own expense, that the authorities were shamed into contracting an additional supply, this time at the rate of 60 instead of 42 francs the kilo.—*Medical Press and Circular*.

DR. COULTER'S COMBINED VAPORIZER AND INHALER.—Dr. Coulter, who practised for many years in Lindsay, has invented a new instrument for vaporizing oils and drugs for inhalation, as well as for deodorizing and disinfecting sick rooms. This ingenious instrument has many advantages, on account of which we can recommend it highly. It is made with nickel-plated copper, being very simple, and at the same time durable. It is not simply a spray producer, but is really a vaporizer, and thoroughly volatilizes oils, breaking the oils into very small particles.

THE  
CANADIAN PRACTITIONER

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EDITOR:

A. H. WRIGHT, B.A., M.D. Tor., M.R.C.S. England.

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Original Communications.

OPENING LECTURE OF THE FIFTH  
SESSION OF THE RESTORED  
MEDICAL FACULTY OF  
THE UNIVERSITY OF  
TORONTO.

BY ADAM H. WRIGHT, B.A., M.D.

*Mr. President, Ladies, and Gentlemen:*

We are now entering upon the fifth session since there-establishment of our Medical Faculty, and it becomes my pleasing duty, on behalf of our staff, to extend a hearty greeting and a cordial welcome to our students. We are glad to see the faces of those who have been with us in former years, and yet are well-pleased to see faces that are new and strange. Instead of new and strange, I might use a word that usage has made more suitable in this connection—fresh. The freshmen, frequently designated the "freshy" by the senior, is ever an object of interest in all well-regulated colleges. To the sophomore especially appears to be relegated the duty of looking after him and watching for the first appearances of that supposed essential characteristic in him, which was called by the poets in ages past—"cheek." The sophomore before referred to is generally disappointed if he sees no sign of this important commodity, which it would be his pleasing duty to promptly extinguish. I may say that the freshmen class is apt to be carefully scrutinized by teachers as well as students. When small, it creates a feeling of

sadness; when large and good-looking, as in the present instance, it makes every one look pleasant and happy.

It is not long since I heard a friend of the University state that the two most important events in the recent history of the University of Toronto were federation and the re-establishment of the Medical Faculty. I was much impressed with that statement, and am firmly convinced that it is correct. Professor Ramsay Wright, in his opening lecture four years ago, gave us many interesting facts about the formation of universities in mediæval times. He told us that the prime function of the university in those days was teaching by accomplished masters. In more modern times opinions on this point differed, and many thought that the main duty of a university, especially in relation to the professions, was to conduct examinations and grant degrees. The friends of this University were for a time largely possessed with this idea. It was thought that it would be well to make a high standard, frame a curriculum in accordance therewith, and encourage all the medical colleges in the province to enter into affiliation with this institution. These apparently broad views contained many features that were very good, especially on paper, and for many years those who had demonstrated the correctness of such opinions with almost mathematical precision waited for the appearance of the crowning glories of the wondrous scheme. Our doors were opened wide for the entrance of both friends and enemies to our council chambers.



We gazed upon our graduating classes from year to year expecting to see considerable and somewhat rapid swelling. We had proved by some very logical reasoning that such results must necessarily follow.

Strange to say, while we gazed our eyes were somewhat saddened by the fact that our graduating lists were growing smaller and beautifully less from year to year. In the spring of 1887 we find that the numbers of medical graduates of the larger universities of Canada were as follows: Trinity College, 52; McGill, 43; Victoria, from Ontario, 35; Queen's, 28; Toronto, 25. As I have before indicated, we had logically and mathematically proved the impossibility of the existence of such a condition of things. We were somewhat in the position of a certain Dr. Tonès, a worthy worshipper of Hippocrates and Galen, who lived in the 17th century. On a certain occasion a wordy battle ensued between the doctor and a maidservant as to whether a coachman whom the doctor attended a few days before was alive or dead. Dr. Tonès finally closed the discussion as far as he was concerned by stating positively and with great solemnity: "It is impossible; Hippocrates says that these diseases end only on the fourteenth and twenty-first days, and he has only been ill six days." The maid, who was left alone by the positive doctor, cried out in despair: "Hippocrates may say what he likes, but the coachman is dead all the same." So likewise we who had lived in the clouds, wrapped in the folds of our beautiful theories and our logical syllogisms, began to think that we had better come down to the earth and recognize facts like ordinary mortals.

As we awoke and threw off our lethargy, we saw, to our surprise, that the great universities of other countries, such as Edinburgh, Cambridge, Oxford, Harvard, Pennsylvania, and many others, indulged in no such absurd views about their proper functions. These grand institutions had found that their highest aim and their noblest duty was to teach; and, in teaching, they thought it not unbecoming to include medicine among the subjects taught. I need not now detain you by referring in detail to the great work which has been accomplished by the medical faculties of these various universities, and the great lustre that has been added to them

in consequence of such work. When we decided to take advantage of the provisions of the University Federation Act, it took but a short time to complete the organization of a teaching Faculty of Medicine in this University.

I desire at this time, on behalf of our teaching staff, to give some expression to the feelings of gratitude which we entertain towards the many in university circles who have always shown us so much kindness and sympathy, and at the same time have given us such substantial assistance from the date of our organization until the present time. Where kindness has been so general it is difficult to particularize, but I cannot refrain from making a few special references. First of all, I wish to speak of the kind and intelligent consideration we have ever received from the Chancellor, the Vice-Chancellor, and the other members of the Senate. Their cordial support and generous approval of our work have given us greater satisfaction and more encouragement than any words of mine can tell.

In making some reference to our relations with the distinguished President of the University, I feel that I am utterly unable to give expression to my appreciation of his unflinching kindness and courtesy towards us on all occasions. It is one of the most pleasant features of the new condition of things that we have to acknowledge him as our head, although we have to regret that our existence adds so largely to his responsibilities, which before were sufficiently heavy. We were all gratified to learn of the honor done him by his native city, Edinburgh, where the citizens recently met to confer on him the greatest distinction in their power—the freedom of the city—an honor reserved for those renowned in politics or highly distinguished in letters. Among the members of the professorial staff, to whom we are deeply indebted are Professors Loudon, Ramsay Wright, and Ellis, who have ever shown a willingness and even a strong desire to assist our Faculty in every possible way.

I have good reasons to think that I fully represent the feelings of our teaching staff when I say that we highly appreciate the substantial assistance we have received from the other faculties of the University and the affiliated institutions. At the same time, we have a due sense of the responsibility we assume when we under-

take to make this Medical Faculty a credit alike to our country and our provincial University. I may go a little further and say that we are quite ambitious, and have a very strong desire to make our Faculty equal in all respects to the best medical colleges in the world. We have no wish to shine simply by reflected glory from the institution which has honored us so highly: but are extremely anxious to bring to it some solid strength and add something to its reputation. We would like to do for it what the medical faculties have done for Edinburgh, Cambridge, and other universities to which I have before alluded.

We have certain views about the duties of the State in relation to the teaching of science, especially biology and bacteriology, but I have nothing special to say in that connection tonight. Our views are known to the authorities of the University, and are likely to receive due consideration at the proper time. Unfortunately, the urgent needs of all departments increase more rapidly than our revenues. We may differ in opinion as to where the greatest urgency exists, but all agree that at the present time the greatest possible caution is required in deciding upon any new expenditures. The recent report of the committee appointed by the Senate and the Board of Trustees respecting the revenues and requirements throws a flood of light on many important questions connected with the growth of our University. It is well known that we are deeply indebted to our distinguished Chancellor for the immense amount of labor he expended in connection with that report, and for the great good which has been accomplished therewith. It is a grand thing for our University to have among her governors and advisers such a man as Edward Blake, especially when he is so ready to give her the full benefit of his marvellous capacities for work and the wondrous intellect which directs his methods.

I may say, without going into particulars, that the Medical Faculty has agreed to act for the present in consonance with the spirit of that report. We have to consider the fact that we are now recovering from the effects of the sad calamity which befel us when a large portion of our main building was destroyed by fire on the night of February 14th, 1890. We have to remember that the chief force of that severe

blow fell on the Arts Faculty; and while we extend to her our warm sympathies, we desire to go farther, and give her all the assistance we can in her hour of need.

However, from our own point of view we have some very urgent needs, which we feel none the less because we are not at present asking for assistance from the Government or the Senate. One of the most important of these is the necessity for a better equipment of our pathological department. We reached the conclusion some time ago that something must be done in this direction, and the members of our Faculty with a number of their friends subscribed between four and five thousand dollars to be expended for the purposes of pathology. The amount is not large, but the act shows that we have occasionally a very practical method of overcoming any difficulties which may beset us. We claim no special credit for it, however, as we are simply following in a humble way the good examples that are so frequently presented to us by the generous friends of the University in various directions. I am glad to be able to announce that a certain portion of this money is now being expended in fitting up a pathological laboratory which will be available for our students during this session.

It gives me much pleasure to refer to a very generous act on the part of our students, who appear to have as keen an appreciation of the necessities of the times, in a medical sense, as the members of the teaching staff. An organization exists among the students which is called the "University of Toronto Medical Society." This society decided last session to appoint a pathologist and pay him a salary of \$200 per annum. He will be expected to work under the guidance of our lecturer in pathology, to assist the students in their study of this important subject, and also to engage in original research. So far as I know, this action is unprecedented in the history of medical colleges. The amount may not seem large, but our students are not, as a rule, millionaires: their fees are high, their wants are many, and they can ill afford to indulge in many extras. It gives me unbounded satisfaction to offer my hearty congratulations to our students for the generous impulses which have caused them to contribute this sum of money towards so worthy an object.

I have the good fortune to be able to make another announcement which will be highly appreciated. It is an old story that Professor Ramsay Wright has ever done noble work for our Faculty. It is well-known to you that he has been enabled, through the generosity of the Vice-Chancellor, to spend several months in Berlin, participating in and watching the progress of investigation in what will always be one of the most memorable times in the history of science and medicine: for whatever value the future may assign to Koch's treatment for tuberculosis, which is still *sub judice*, there can be no doubt that it opens up new avenues of research in the effort to combat human bacterial diseases, and that no more powerful stimulus to investigation could be conceived of than the announcement of its discovery has proved.

Provision is consequently being made for the teaching of bacteriology in universities where none previously existed: and I am glad to say that we are not to be behind in this respect. The subject has indeed been included in the curriculum of the Honor Natural Science Department in Arts; but Professor Wright is prepared to devote an entire month, after the ordinary work of the session is over, to giving a course suitable for graduates in medicine similar to that given in the institutes of Koch and Pasteur. This he is prepared to do without remuneration, and the participants in the course will merely pay such a charge as will meet its running expenses; but Professor Wright requires \$1,000 to convert one of his laboratories into a bacteriological workroom suitable for the all-day work of some twenty students, and to provide the apparatus necessary. I would be pleased to hear within a week that some wealthy and generous citizen of Toronto had sent him a cheque for this amount.

It was announced last spring by our Dean that the Medical Faculty had decided to make our post-graduate course of lectures an annual one. In our efforts in this direction in the past, we have been much indebted to distinguished physicians and scientists from the United States who have given us such valuable assistance on various occasions. We do not propose to impose on their good nature for our next course. We have decided that our course next April or May will cover two weeks, and the lectures and

demonstrations will be given exclusively by the members of our own Faculty, who have offered to give their services free of charge, for the benefit of the profession of this province.

The wondrous advances in modern medicine were well described by Professor Graham in his admirable opening address delivered last year. One of the things most frequently told to classes of students in recent years—and it can scarcely be told too often—is that all our knowledge must rest on a scientific basis. Science is not especially interesting excepting to her devotees, and it is somewhat difficult to get even educated and intelligent physicians to appreciate in full the importance of the modern methods of teaching, which have reached such perfection in Germany.

A large proportion of our profession think that physics is an unimportant and useless subject added to modern curricula by visionary enthusiasts. Others think that our modern ideas about chemistry are all wrong. It would certainly be difficult to obtain a consensus of opinion even among the scientists of the present day as to the exact amount of work which should be required from medical students in the various departments of science. All would probably agree, however, that their early work should be directed chiefly towards physics, chemistry, and biology, inasmuch as all vital processes are regulated by physical and chemical laws, and physiology has been well defined by Roscoe as the physics and chemistry of the animal body.

When we look back a couple of centuries and compare the medicine of that time with the medicine of to-day, we find a marvellous contrast presented to our view. Renouard tells us that before the "reform period" medicine was a mixture of dogmatism, empiricism, and mysticism. It was considered a rank heresy to question the authority of Hippocrates or Galen. Molière, who lived in the seventeenth century, which is described by Conklin of Dayton, Ohio, as the dividing line between ancient and modern medicine, indulged in some of his keenest satire at the expense of some of the physicians then attached to the court of Louis XIV. He described a consultation of four doctors, who had a profound reverence for authority and a keen appreciation of the beauties of medical etiquette. After giving an outline of the treatment to the



father of the patient, they gave the following guarded prognosis: "We do not say that your daughter may not die for all this; but you will at least have the satisfaction of having done something, and the consolation of knowing that she died according to rule. It is better to die according to rule than to recover in violation of it."

At this juncture many important discoveries were made, especially in physics and chemistry. Harvey gave the world correct ideas respecting the circulation of the blood. It may be of interest to you to learn that the table over which he worked and demonstrated his wonderful discovery is now the property of this University, having been presented by Dr. Clarke, of Toronto. The old school men fought the new idea with considerable vigor for many years, but gradually the truth prevailed, and in due course of time a proper foundation was laid for what we now call modern scientific medicine.

Under the new régime our reverence for the so-called authorities is very weak, our respect for tradition is almost annihilated. Dr. Conklin, in his recent presidential address to the Ohio State Medical Society, well described our present position when he said: "Modern medicine acknowledges no intellectual restraint. Every new hypothesis is at once submitted to fair but rigid laboratory and clinical tests, and by the result of these must it stand or fall."

I am addressing students who have chosen the profession of medicine as their life work. I hope you have done so after careful consideration and due appreciation of the difficulties you will have to surmount, and the responsibilities you will have to assume. Modern achievements and discoveries have made the field you will have to traverse a very broad one: but I believe that faithful, honest work will enable you to succeed. Our University has placed at your disposal grand opportunities, and I hope that you will make the most of them. The members of our Faculty are your friends, and will endeavor to give you all the assistance possible.

Our profession has often been called a noble one. I sometimes think the expression is to a certain extent misleading, and have more than once expressed my opinions in that direction. From some points of view, there is nothing essentially noble about

it. I regret to say that we have in our ranks many who would cast huge blots on any standard of nobility we might assume. Without going back so far as the dark ages, I may say that I have seen even medical students who have shown by their actions that they are little, if any, above the level of the worst hoodlums who sometimes infest our streets. I am making no personal allusions, however; I know of no such individuals in the medical colleges in this city: I have recognized, with the greatest pleasure, in recent years, that our students fully appreciate the condition of things in medical matters, and show by their actions a determination to do credit to themselves, their university, and the profession they have chosen.

While I have refused to adopt the idea that there is any essential nobility in our profession, I have no desire to cast any slurs upon it. As a matter of fact, I place it second to none in the world: but I would like to impress upon you the fact that it will be exactly what we are pleased to make it. You as students will be judged by your actions. This great student-city is proud of the position she occupies as the educational metropolis of Canada. Her citizens will give you a cordial welcome and rejoice in your success. Let it be your aim to be worthy of such a welcome and such good wishes for your well-being; may you never do an act which will bring the blush of shame to those who desire to be your friends.

In conclusion, I have simply this to say: Our profession is a great and noble one in the sense that it gives us grand opportunities for good work in the interests of suffering humanity. Our responsibilities are many; at the same time our opportunities are great; and if we, one and all, as students and practitioners, do our work honestly and conscientiously, having regard to our duties to God and man, we will make our profession good, great, and noble, in the best sense of the words.

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COCAINE is chemically incompatible with the salts of mercury. If a trace of cocaine hydrochlorate be mixed by means of a dry glass rod with a very minute quantity of calomel, and the mixture be breathed upon, the moisture that condenses is sufficient to cause it to blacken immediately.—*Medical Chronicle*.

SUPPURATING CYSTS DEVELOPED  
FROM ADHERENT OVARIES AFTER  
REPEATED ATTACKS OF INFLAM-  
MATION—SECONDARY OPERA-  
TION FOR THE REMOVAL OF  
INTRA-LIGAMENTOUS CYSTS.

BY RUFUS B. HALL, M.D., CINCINNATI, OHIO.

Read at the New York meeting of the American Association of  
Obstetricians and Gynecologists, Sept. 17, 18, 19.

In presenting this paper, I have selected three cases from my work of the past few months which illustrate some interesting points and teach a very valuable lesson, which, in the judgment of the writer, cannot be too forcibly emphasized by men engaged in abdominal and pelvic surgery. I report the cases as illustrating three of as difficult abdominal operations as it has been my misfortune to have ever seen. While it is not a pleasant task for an operator to report the cases which have not recovered, it is my practice to do so, for it almost always occurs that, from the careful study of these unfortunate results, much valuable information is gained, and I am quite certain that we shall not be disappointed in the present instance in that particular. Even though the task be an unpleasant one, it is one which every operator should do as promptly and carefully as he reports his successful cases; yet I am in a position to say it is not always done.

*Case 1.* Mrs. W., æt. 33, Troy, Ohio, mother of one child 9 years old. One year after the birth of her child the patient had an attack of pelvic inflammation, from which she never fully recovered, yet she was able to move about the house after a few weeks. For a period of four years just preceding the operation, she was so ill that she required constant treatment. The last two years she suffered constant pain, and for four months before the operation was confined to the bed. Being the wife of a physician, she received attentive care during all of those years. The treatment gave temporary relief only, and after each recurring attack the patient was conscious of the fact that she did not fully regain her health. As she expressed it to me, she was slowly but surely becoming a chronic invalid. The question of an operation had been often discussed by the patient and her husband, and as often discarded. It was only after the discovery of the tumor that the patient

and her husband could be convinced that an operation must be performed if they hoped to effect a cure or avert a speedy death. When I was asked to see the patient in January, 1891, I found that she had a tumor about the size of a child's head at birth, and had been suffering for weeks from an attack of peritonitis and sepsis. She was in such a miserable condition then from long suffering and the effects of morphine, having a high daily temperature, that I advised a short delay, with the hope that we might put her in a better condition for an operation. The morphine was taken away and phenacetine substituted, and the patient was urged to take as much liquid food as possible. She improved to some extent, and after six weeks was moved to my Home for the operation, which was done February 28, 1891, and the specimens here presented were removed with the greatest possible difficulty. You will observe the shreds of adhesions attached to every portion of the cyst wall, also the exceedingly thin wall of a part of the cyst. The cyst contained pus, much of which escaped before enucleation could be completed. The patient had a slow recovery, but was able to go home in five weeks, and is now in good health.

*Case 2.* Mrs. S., Mt. Auburn, Cincinnati, æt. 39, mother of three children, the youngest nine years old. She was conscious of the fact that she had some pelvic trouble after the birth of her last child. When it was 15 months old, she first sought relief on account of pelvic pain. Soon after the physician began to make local applications, the patient had an attack of peritonitis which confined her to the bed for several weeks. Three weeks of that time the whole abdomen was covered with flaxseed meal poultices as hot as the patient could stand. After the patient could move about, she had local treatment for twelve or eighteen months regularly until she revolted. Then that was for a time suspended. For the following two years she was more or less under the care of her physician, always conscious of a tender lump in the right side of the pelvis. In April, 1887, the patient again had an attack of peritonitis which confined her to the room twelve weeks. Nine weeks of the time she could not leave her bed. The first three weeks of that time she was again poulticed as before. After

that date she suffered constant pelvic pain, which could only be relieved, not cured, by her attentive physician. The enlargement, or tumor, was discovered some time before the operation. It was variously diagnosed by different physicians. Early in July, 1890, a well-known physician of Cincinnati thought electricity would be just the thing for a growth of that kind with such a history, and so applied it: but unfortunately for the patient it did just what every man engaged in this work knows it will do—it set up an attack of peritonitis which nearly cost the patient her life. Another well-known physician saw the case with the attending physician with reference to an operation after the patient had been treated by electricity, and many months after the tumor had been discovered: yet he could see no reason why an operation should be advised, and so expressed himself, notwithstanding the facts that the patient was a confirmed and suffering invalid, confined to the bed for weeks at a time with peritonitis from the most trivial causes, and had a well-defined tumor in the pelvis and abdomen. The patient came under my observation in April, 1891, after she had been suffering for weeks with peritonitis and sepsis. The pelvis was partly filled by a tumor which extended into the right side of the abdomen. The tumor was somewhat larger than a cocoanut. The operation was performed April 27th, 1891. There were dense adhesions to intestines, omentum, and pelvic floor. Every portion of the cyst was adherent, except the space of two square inches upon the upper surface. One who has not had experience in removing ovarian cysts which have developed from an ovary bound down by adhesions where the patient has suffered for many years from repeated attacks of peritonitis cannot quite appreciate the difficulties to be overcome in such cases. You will observe by this specimen that every portion of the cyst wall, except the little space in front, is covered by ragged shreds illustrating the adhesions. The tumor contained pus. The patient rallied better than any one could expect, but died the fourth day from the pre-existing sepsis, which had existed for weeks before the operation.

*Remarks:* Both of the preceding patients had been sufferers for years: both had suppurat-

ing cysts developed from adherent ovaries of long standing: both had chronic sepsis at the time of operation. The facts to be derived from them are worthy of careful consideration by every physician in the land. I have thus gone into details more than I otherwise would had it not been that I wanted the expression of the fellows of this association upon non-interference in such cases. The first fact to be derived from these cases is that when a woman is rendered an invalid from repeated attacks of pelvic inflammation, with adherent ovaries and tubes which are evidently the cause of the attacks, threatening life and rendering existence a burden, she should be advised to submit to an operation for the removal of the diseased organs. That advice should be given as early as it is evident that nothing but an operation can bring the hoped-for relief, and not deferred as it was in these cases. Particularly is this true of the last case, where the patient was known to have a tumor in the abdomen for many months. In my judgment, the physician who does not thus advise his patient is more than negligent of his duty. If the operation had been made years before in both cases, the patients would have been saved untold suffering; and who can say that both patients would not have recovered? I cannot understand why any one who is himself an operator could not see the necessity for an operation in the last-named case with the history of the case to guide him and a well-defined tumor in the abdomen.

*Case 3.* The third case, Mrs. D., æt. 39, of Cincinnati, is one of more than ordinary interest from the fact that the case was one of double intra-ligamentous cyst. Twenty months before the operation, the patient had been subjected to an abdominal section by a physician, who found an intra-ligamentous cyst of the right side, which he stitched to the abdominal wound after tapping it. After five months of purulent discharge and sepsis, the external wound closed: but after a few months the abscess opened into the vagina and discharged pus ever afterwards. The operation did not relieve the patient of pain, and after it she had a number of attacks of peritonitis which confined her to her bed for months at a time. When she came under my observation early in July, 1891, she was convalescing from an attack of peritonitis which



commenced early in March and was yet unable to leave the bed. There was a ventral hernia at the old scar and a tumor about the size of a cocoanut in the pelvis and abdomen. She had constant pain, and frequent, almost daily, attacks of pain lasting for hours, which could only be made tolerable by large doses of opium. The patient was a hopeless and suffering invalid unless she could be relieved by an operation. Her suffering surpassed anything I have ever witnessed, except in the last stages of malignant disease of the uterus. The patient and friends were anxious for any operation which promised relief, and thoroughly understood that the operation only promised the last and only chance of relief. I was not anxious to operate after the abdomen had once been opened and a cyst stitched to the abdominal wall, which had been followed by months of suppuration and sepsis. I knew we would have the old cyst wall pus sac which was left after the first operation to dissect from the broad ligament as well as firm and extensive intestinal adhesions of twenty months' duration to deal with, and possibly a second intra-ligamentous cyst upon the opposite side, yet as a matter of duty I could not decline to operate. If we encountered all of these conditions, the case would be a desperate one at best. After all of the facts had been plainly stated to the patient and friends, they decided to take the chance which an operation promised. The operation was made August 31st, 1891, in the presence of Drs. Drake, Reed, and Ricketts, with Drs. Johnston and Colter assisting. The abdomen was opened above the old scar. It was found that there was an extensive intestinal adhesion to the abdominal wall and the old cyst wall. The incision was now enlarged toward the pubis to the left of the median line, so as to avoid the intestine. After an hour's tedious dissection, for the adhesion was so firm that they could only be separated by the knife and scissors, the intestine was liberated so as to give working room. It was found that there was an intra-ligamentous cyst on the left side the size of a cocoanut, which was completely dug, as it were, out of the broad ligament, after which the one that had been stitched to the abdominal wall was dissected out of its broad ligament. I here present both cysts. You can see that they

were completely enucleated. There were extensive intestinal adhesions in the pelvis, but no attempt was made to liberate them. The hernial sac was cut away, a glass drainage-tube placed, and the cavity closed. The patient rallied well from the shock, but died from intestinal obstruction on the fourth day. There was no leakage from the intestine into the abdominal cavity as demonstrated from the drainage-tube, which remained in until near the time of her death. In reviewing this case, I am certain that it would have been vastly better for the patient if the operation had been completed and the cyst removed at the first attempt. I believe that no operator is justified in leaving an abdominal operation incomplete except in malignant disease, for the reason that all other growths can be removed, and should be, when once attempted. I am confident that the intestinal adhesions from the former operation had much to do in causing the fatal result. While I much regret the fatal termination, I feel that I did right in operating, and would again do so under similar circumstances.

So long as the general practitioner persists in pursuing what he pleases to call conservative treatment in these cases and keeps the patients under his care just as long as he can keep breath in them, and while surgeons of the older class turn these patients from their consulting room as non-operative cases, and while others make the conditions still more complicated from incompleting operations, we shall continue to see just such desperate cases, and the men engaged in this special work must of necessity meet many such neglected cases which are sent to them for operation. While this state of affairs exists, what can we hope for other than a high mortality in these delayed cases—and who should be held responsible for the deaths?

It has always been a problem in therapeutics how best to introduce iodine within the system. The iodides of potash, soda, ammonium, have been regarded as the most feasible, and have proved fairly satisfactory. Nevertheless there has been a lurking feeling that there must surely be something better, evidenced by the fact that all the antiseptics of iodine origin have been administered internally, with but small success, however.

ADDRESS DELIVERED AT THE ANNUAL  
CONVOCATION OF THE UNIVERSITY OF TORONTO AND  
UNIVERSITY COLLEGE.  
MONDAY, OCT. 5, '91.

BY I. MACFARLANE, M.B., TORONTO,  
Professor of Clinical Surgery.

*Mr. President, Ladies, and Gentlemen:*

It affords me great pleasure to be present at the first convocation in the restored University building. The University authorities are to be congratulated on the rapidity with which the building is approaching completion, and also on the improved condition of its interior. The class accommodation, lighting, and ventilation are in marked contrast with what we had in the old building. In place of the old dingy class-rooms there are bright, cheerful rooms, well lighted, and fairly well ventilated, and also the corridors have had a flood of light let in upon them, which will prevent students from running against each other in passing two and fro in the dark. In all respects the building has been so completely remodelled as to render it more suitable for modern academic teaching. When I look back to the time when I graduated and compare the University of that date with our present, I am utterly astonished at the advance made in higher education. At that time our University was on paper. Her functions were very limited, being confined to framing a curriculum, appointing examiners, and granting degrees. One or two medical schools were in affiliation with her and some of their students took advantage of her examinations and degrees: but the large majority passed over to other institutions where a cheaper degree could be obtained in less time and with far less labor. Even many of those who passed their examinations and got their degrees in this University were but lukewarm friends. This can be easily understood when we remember that they did not receive any part of their education within her walls, but simply came up for examination. It is a well-known fact that a student has no strong affection for the board that examines him, especially if he has been plucked on one or two occasions. It will thus be seen that up to a recent date our graduates in medicine were comparatively few, and many of those lacked that filial affection which an alumnus should always have for his alma

*mater.* Some of us had hoped from year to year that the order of things would be changed, so that the University would become a teaching institution and have her teaching faculties in law, medicine, and arts. For many years we never lost an opportunity of impressing this fact on all the friends of the University with whom we came in contact, but we were doomed to disappointment and discouragement, and met by a multitude of arguments to show the impracticability and impossibility of such a course. Yet we hoped on: and thanks to the friends of higher education who met in conference in 1885 to discuss the feasibility of federating the various universities and colleges of Ontario with the Provincial University, the Legislature passed the Act of Federation in 1887 which gave power to the Senate to establish teaching faculties in law, medicine, and arts. Thus were our long-cherished hopes realized. I feel proud to-day that we have no longer a University on paper, but one possessed of all her faculties and each faculty of all its members, thus constituting a vigorous, healthy, and active teaching institution which is bound to be the leader in all literary and scientific work, not only in this province, but in the Dominion, and I hope, ere long, on the continent. I do not know any university outside of the great educational centres of Great Britain (such as Oxford and Cambridge) where you have a greater number of educational institutions centred than you have around the University of Toronto. If you look to the north you see Wycliffe College, just completed, and in federation and close sympathy with us. Further north is McMaster Hall, now known as McMaster University, which for a number of years was a close ally of this University, and whose great benefactor was for a number of years an active member of our Senate. I hope, ere long, to find her again joining hands with us in building up a great university centre in this city. If we cast our eyes to the north-east, we see an imposing structure in course of erection by the Methodist people of this province which will be a credit to themselves and a great benefit to the rising generation of this country. The General Conference of the Methodist Church, after due deliberation, decided to accept the terms of federation and remove their headquarters from

Cobourg to the Queen's Park, and cast in their lot with the Provincial University. This I consider a very wise move, and one that will greatly benefit their students, not only by contact with the students of the other colleges, but by enjoying the advantages afforded by the University in her scientific teaching. While we regard this move as a great advantage to Victoria College, we cannot overlook the fact that it is also a source of strength to the Provincial University by adding another strong pillar to those already supporting her. The interests of both institutions are now identical, and consequently their line of action in case of an attack will be in harmony. If we go a little farther east we meet with St. Michael's College, the educational home of a large number of the Roman Catholic youth of Canada, as well as quite a number from the United States. This institution is doing a noble work and is presided over by an esteemed graduate of the University of Toronto (Father Teefy). It is also in close affiliation and sympathy with us. Let us now retrace our steps westward, and we come to our old and tried friend, Knox College. This institution has been in affiliation with the University for a number of years, has proved herself a staunch and true friend, and since the passage of the Federation Act has been, if possible, more closely allied with us. I fear not that she will continue in the old lines, loyal and true. Looking to the south we see that large red brick structure, with numerous windows, the School of Practical Science. I cannot call it a thing of beauty nor define its style of architecture, but one thing I know: that, under the management of my friend and fellow-graduate (Prof. Galbraith), good work is being done which reflects credit on the institution as well as on the province. This school is also in affiliation with the University. The expansion of the University does not stop here, for in 1888 the Ontario Agricultural College became affiliated with her, and a curriculum of study for the degree of Bachelor of the Science of Agriculture was adopted. The affiliation of the Royal College of Dental Surgeons of Ontario also necessitated the adoption of a curriculum and an examination for the degree of Doctor of Dental Surgery. Lastly, the application of the Toronto College of Music for affiliation was accepted by

the Senate and a curriculum prepared for the degree of Bachelor of Music. You will thus see the vast strides made by the University within a few years, and appreciate my great surprise when I compare her present condition with that of 1867, when I graduated. I hope you will pardon me if I make a brief reference to a department of the University with which our work is more closely identified, and from which our medical students receive their preliminary scientific training. I refer to the Biological department. I believe our Biological buildings and their equipment are equal to any on the continent, and far superior to many. As to the teaching, it is an admitted fact by those who are more capable of judging than I am that it is all that can be desired as far as it goes, but unfortunately it does not embrace all the subjects that I consider necessary to complete the department. The subjects of anatomy, pathology, and bacteriology are not taught by special professors in these subjects. I am aware that the urgent wants of the University in other directions are so great that we cannot expect appointments to be made to these positions till such time as the more urgent wants are supplied, but I hope that in the near future the Government will see its way clear to make such appointments, and thus complete the noble work so admirably begun. In conclusion, allow me to say a few words to the students. I wish to let them into a secret, and it is this, that the faculty in medicine has determined to hold up its end and not stand second to any of the other faculties; and I will tell you how this is to be done, viz., by hard work, careful preparation of lectures, promptness in the delivery of the same. These will constitute the principal factors in our method of attaining the end we desire. Now, what we want of you is to co-operate with us in this matter by strict attention to your work, by attending regularly to lectures, and, above all, I would say to the third and fourth year men, by attending faithfully to the clinical instruction in the hospital. Do not any of you run away with the idea that you are a genius and can do more work in one week than your neighbor can do in a month. I can tell you now that the genius who can pass his examinations in medicine and get his degree without work is dead. He died years ago. In fact, I never saw him. The



genius of to-day is the man who works constantly, and not periodically—the man who works systematically and with an eye single to success in the profession which he has selected for his life-long work. I wish to say to you, medical students, that the facilities you have in this city, and in connection with this University, will compare favorably with those of any other institution that I know, and I have visited nearly every institution of importance both in Great Britain and on the Continent. I therefore speak advisedly.

REPORT OF SIX CASES OF COMPLETE  
LACERATION OF THE PERINEUM  
WITH INCONTINENCE OF FÆCES  
OPERATED ON BY THE FLAP-  
SPLITTING METHOD WITH  
COMPLETE CONTROL OF  
THE SPHINCTER ANI  
MUSCLE IN EACH  
CASE.

BY DR. JAS. F. W. ROSS,

Lecturer on Abdominal Surgery, Toronto University, etc.

In these days of accusation and counter-accusation, one must be precise. In the present record I do not intend to weary the reader by precise detail, but will preface my remarks.

I have done a great many operations for repair of incomplete laceration of the perineum by the flap-splitting method, but with these the present article does not deal. The following testimony of the efficacy of the simple flap-splitting method of repair in cases of complete tear speaks forth in no uncertain tones to the adverse critics. My cases are well known to my professional friends, and I mention for reference Drs. A. H. Wright, J. T. McMahon, Alex. Davidson, H. T. Machell, I. H. Cameron, J. Orr, Dr. Sisley, Miss Graham, M.D., all of Toronto. The patients are all living to speak for themselves. In only one case, the last recorded, and one in which the immediate operation was done, were the ends of the torn sphincter joined by stitches. It is not necessary to hunt for the fibres of the sphincter ani. The muscle acts like an elastic band that is fixed at its two ends, but these two ends must be approximated so as to diminish the calibre of the ring to about its original dimensions. Theories are without the weight carried by actual experience

learned from results. The opinion just expressed was formed by watching the cases to be narrated.

*Case 1.* Mrs. G., a patient sent by my friend Dr. Orr. She had borne one child, and a complete laceration of the perineum occurred. The incontinence of feces was very trying to her. Operation was done by a professional friend by the paring method, but for some unexplained reason the parts did not unite. She came under my care and I operated by the flap-splitting method. She remained under observation for some time, and the result was perfect. She had complete control of the bowel.

*Case 2.* Mrs. E., daughter of a physician and wife of a clergyman. Had one child a year before I saw her. Laceration through the sphincter. She was very wretched through incontinence of feces. Operation done by flap-splitting method, resulting in complete control of the bowel.

*Case 3.* Mrs. —, colored. She has a contracted pelvis. Craniotomy had been performed twice before I saw her. Vesico-vaginal fistula and complete laceration of perineum resulted. I first closed the fistula, and allowed the eroded and ulcerated skin and mucous membrane around the vagina and rectum to heal. I then operated by the flap-splitting method and the result was perfect. She has now complete control of both bladder and bowel, and is one of the most grateful patients I have ever had.

*Case 4.* Mrs. —, a patient torn 23 years ago and operated upon three times before coming under my care. The parts had been so pared away by the former operations that I feared that my stitches would not hold. The rectum protruded and looked like a bunch of red worms the size of the adult fist. The operation gave her complete relief and was done by the flap-splitting method. No other stitch would have held the parts in such apposition. The patient returns every little while to allow me to show her to students and to show her gratitude. The operation was witnessed by my confreres on the staff of St. John's Hospital for Women, and they were all amazed at her wretched condition before operation.

*Case 5.* Mrs. E. Attended by me in two labors subsequent to the one in which the complete laceration occurred. Her condition from

incontinence of feces was wretched, but she refused to have an operation done. Shortly after the birth of her last baby, I persuaded her to submit. An operation by flap-splitting was done in the presence of my friend, Dr. A. H. Wright. It was completely successful. She returned to town a few days ago from her summer outing looking the very picture of health, and said that during the summer she had had diarrhoea and found great comfort from her ability to control the bowel.

*Case 6.* Mrs. S., wife of a physician. Laceration five inches into rectum and vagina. I stitched the mucous membrane of vagina and that of rectum together, leaving the sutures on vaginal and rectal sides respectively. These stitches were of fine silk. I then introduced the sutures suitable for flap-split operations, of silk-worm gut, and completed the operation. I arrived at the house some hours after delivery, but notwithstanding that fact the parts healed perfectly by first intention. I drove out two days ago and took out the sutures, just four weeks after the operation. I dilated the rectum to get out a couple of the silk sutures and did the same with the vagina, using a speculum in each case. The action of the sphincter ani was perfect, and one could scarcely tell that the patient had ever been torn.

## Selections.

A CASE OF ANKYLOSIS FOLLOWING EXCISION OF THE ELBOW-JOINT, TREATED BY HYPNOTIC SUGGESTION. (Under the care of Mr. Hare, in Ancoats Hospital, Manchester.)—Much has been written of late on the use of hypnotism in medical practice, and it has been somewhat extensively tried in various conditions widely different in character. The most beneficial results have been obtained in morbid states of the nervous system; but what will be the ultimate verdict of unbiased investigation upon its usefulness, it is difficult to say. This case is a further contribution to those in surgery where its employment has been found of service, for such are, as a rule, difficult to treat satisfactorily without the use of chloroform or other anæsthetic. For the account of the case we are indebted to Mr. H. T. Mursell, senior resident surgeon.

E. S.—, æt. seventeen, was admitted to this hospital on August 22nd, 1890, under the care of Professor Hare, suffering from ankylosis of the elbow-joint of long standing. Prior to admission various methods of treatment had been tried without success. On examination some thickening and enlargement of the joint structures were made out, but nothing of a very marked character. The limb was slightly flexed, and, as regards flexion, there was almost absolute immobility; pronation and supination were also impaired, but to a less extent. Any forcible attempt at movement caused great pain. Under an anæsthetic there was still difficulty in obtaining movement, and as the limb was practically useless in its present position excision of the joint was decided upon, the operation being performed by Professor Hare on Aug. 25th. All the bony surfaces entering into the formation of the joint were removed, and on examination an exostosis growing from the articular surface of the head of the radius was found to be the cause of the condition. The limb was dressed antiseptically, but unfortunately did not heal by first intention. Passive movement was commenced as early as was deemed advisable, but the highly neurotic temperament of the patient rendered the efficient carrying out of this part of the treatment extremely difficult. Ultimately, in spite of everything, the limb became immobile at the site of the elbow-joint, and almost in the extended position. Under chloroform the limb was freely moved and adhesions broken down, but the patient was not amenable to passive movements, and ankylosis in the extended position again occurred.

With Prof. Hare's sanction, Mr. Mursell tried what could be effected by hypnotic suggestion. The girl was easily hypnotized by causing her to gaze steadily at a retinoscopy mirror held in her hand, by the verbal suggestion of sleep, and by pressure on the frontal prominences. The patient responded to almost any suggestion which was made, and anæsthesia could be readily induced in any part of the body by verbal suggestion. She was told that she could move the affected arm without pain or difficulty of any sort, and readily bent the elbow sufficiently to touch the mouth with the hand when commanded to do so. She was told that this free movement would remain and be quite

painless after she woke up. This post-hypnotic suggestion proved to be still existent and effective two or three days later. Movement was still somewhat imperfect, and she was again hypnotized about a week later. This time the same method was employed, and by verbal suggestion the patient was able readily to touch the back of the head with the hand, and to perform flexion, supination, and pronation without any difficulty. She was assured this condition would remain permanently when she awoke. From this time she had no difficulty in using the affected arm, and completely regained the efficient use of the limb. The patient was discharged cured on November 18th, 1890.

*Remarks by Mr. Mursell.*—The most rational explanation of the treatment is probably that the immobility following the operation was due partly to fibrous adhesion between the ends of the bones, a comparatively small portion of the humerus having been removed, that any attempt at movement caused pain, and thus the patient was afraid to make the attempt, and there was a mental impression of inability to move the limb. By suggestion pain and the mental impression of inability to move the limb were removed, and the movements executed in consequence of this were sufficient to break down and overcome the fibrous adhesions. The unusual method of treatment and the success attending it must be my excuse for publishing a single case. I am indebted to Professor Hare for permission to do so. — *Lancet*.

ALCOHOLIC PHTHISIS. Hector McKensie (Clinical Lecture, Brompton Hospital, London, June 17, 1891. Personal Report) gave his experience in relation to phthisis in alcoholic subjects, as found upon the examination of cases, their course, and observations made on *post-mortem* examinations. It was remarked by the lecturer that the subject was one of great importance and very little had been written upon it, some authorities denying altogether any relation between alcoholism and phthisis, but there was conclusive proof that alcohol did very markedly modify and control the disease. In a series of seventy-five *post-mortem* examinations on alcoholics, tubercular lesions had been found in each case. Of this number, sixty-seven had the lungs principally affected. In the remaining

cases the lesions were found in the peritoneum and pleura. Hepatic cirrhosis was found in forty-five cases. Miliary tubercles, cheesy degeneration, consolidations, and excavations were found. The cases where an excess of connective-tissue formation existed were very few. The vomicae were generally small and their presence frequently was not found during life. In only ten of the seventy-five cases was there any family history, making a marked distinction from non-alcoholic forms of the disease. The diagnosis in many cases, especially early in the disease, could be made only by examination of the sputum, as the phthisical symptoms might be masked by the hepatic and nervous. Repeated examinations of the lungs were necessary. When tubercular formations once commenced, the progress was very rapid, and a fatal termination almost inevitable. The patients were sometimes fat and pasty, and again emaciation was present. The circulation was always bad. The lecturer here stated that he believed in all cases of consumption the best guide in prognosis was the pulse. Troublesome cough is usually present. The treatment is unsatisfactory. It is best not to use alcohol in any form, as the habits of the patients would probably cause the amount prescribed for medicinal purposes to be exceeded, with the most harmful results. In all cases of marked alcoholism, even when the liver or the nervous system seem to be the part affected, examination should be made of the lungs. If there is ever expectoration, the sputum should be examined. — *Brooklyn Med. Jour.*

STRYCHNINE IN THE TREATMENT OF CHRONIC ALCOHOLISM.—In 1888 appeared a short article by Portugalow-Samara (*Nedelja*, No. 8), in which this writer claimed wonderful success in the treatment of chronic alcoholism by the hypodermatic use of strychnine. The article attracted little attention except in the Russian journals, and nothing further on the subject has appeared until the recent paper of Jergolski (*Wratsch*, No. 10, 1891). This author reports a series of ten cases treated by this method with gratifying results. A marked example was that of a joiner, æt. 42, who had for ten years drunk daily a half to one litre or more of brandy. The first day of treatment he received a hypodermatic injection of one-fortieth grain of nitrate of strychnine.



nine. Upon presenting himself the next day, he reported that he had had no restlessness or dragging at the stomach, and had not touched a drop of liquor. One-twentieth grain was injected on this and the seven subsequent days, and he was then dismissed with one grain of the drug in sixty pills, which were to be taken one a day every alternate week. At the end of fifteen months the patient reported himself completely cured. The other nine cases were similar to this, and in all some good effects were noted—in the majority a permanent cure—though in several a relapse occurred from various causes. Portugalow-Samara (*Nedelja*, No. 13, 1891) follows with a report of 455 cases of cure since his first experiments in 1887. According to his experience, ten to fifteen daily injections are required.—*University Med. Magazine*.

FIBRINOUS FORMATION IN THE ILEUM; PERFORATION OF APPENDIX WITH LOCAL ADHESIONS, ETC., BUT NO FEVER; DEATH AFTER A WEEK'S CONSTIPATION.—Dr. Markham Skerritt, of Bristol, has recorded in the Clinical Society's Transactions a remarkable case in which a fatal attack of obstruction was caused by fibrinous effusion into the ileum, three inches above the ileo-cæcal valve ("exactly like the false membrane in croup"). There were also peritoneal adhesions and an abscess cavity. The attack had lasted one week, and had been wholly unattended by fever. It had begun with pain and sickness. On the first day there had been diarrhoea, but constipation ever afterwards. It appeared almost certain that perforation of the vermiform appendix had been the starting point. In commenting upon the obscurity of the symptoms, Dr. Skerritt states that in his experience febrile symptoms are often absent in serious abdominal cases, and writes: "I have seen, again and again, patients suffering from acute general peritonitis almost free from local and general symptoms."—*Hutchinson's Archives of Surgery*.

NON-SURGICAL TREATMENT OF CANCEROUS UTERI.—Reed (*Journal of the American Medical Association*, July 11, 1891) thinks that complete removal of the uterus or even amputation of the cervix is unnecessary in many cases of cancer of the cervix. He has used the following treatment with success: Once a week the sharp

curette is used, followed by an application of the pure chromic acid. He prepared a swab of absorbent cotton, as large as would pass into the cervical canal. After he had rapidly reamed it out with the curette, and on withdrawing the latter, immediately dipped the swab into water, then into the dry chromic acid, and carried it as far as possible into the cervix and cavity, and held it there until the hissing and smoke ceased; then withdrew the swab, packed the cervix with cotton saturated with the pure persulphate, which was directed to be removed by a string attached for that purpose in three or four days. The hemorrhage from the use of the curette was fearful, but immediately stopped on contact with the chromic acid. He has tried this treatment on but a single patient. She was directed to let him know if hemorrhage should occur in the interval of his visits, and but once did she send for him. The treatment was continued for several months; and now, some four or five months later, she is apparently perfectly well, with no tendency to a return of the growth.—*University Medical Magazine*.

ADULT, male, æt. 25. Otorrhœa in left ear; hearing nil. Hearing in right ear some better, but very poor. When he first presented himself he stated that previous attempts by aurists both in Chicago and Los Angeles to improve the latter resulted in lessening the hearing power. I was privileged to examine it and removed a good quantity of hardened cerumen, but with the result of making the hearing much worse than before. The next day a mucopurulent bloody discharge began to flow from the ear, and I found a large rent in the anterior or nasal portion of the drum-head. The mucopurulent discharge soon yielded to treatment, and after a few days rest I applied a portion of egg skin to the rent in the drum-head. The result was marvellous. He could hear a whisper at the distance of fifteen feet. The section remained in the ear for six weeks, when the hearing once more became poor. Suspecting some displacement, I removed the piece, when I found the rent in the drum much smaller than at my first examination. I then applied a new membrane and the hearing was again restored. Patient still using them. I remove them every four to five weeks. No irritation ever accom-

panies their use, and the patient would not think of going without them. The aperture in the tympanic membrane is now almost closed. —*Dr. Cleary in report of Proceedings of Denver Medical Association.*

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, OCTOBER 16, 1891.

### THE MEDICAL COLLEGES OF TORONTO.

The first of October is an important date for medical students. It is the "commencement" day for the regular winter session, and the opening exercises create considerable interest among professors and students. The classes this year are large, probably more numerous than they have been for some time. As the new regulations of the Ontario Medical Council, requiring a higher standard for matriculation and a longer course of study, will come into force next July, it is probable that a certain number are commencing their studies this session in order that they may work under the present rules.

It is likely that there will be a falling off next year to some extent, but we do not share the views of those who think it will be so considerable as to seriously cripple our medical schools. Such considerations will not, however, carry much weight with the mass of the profession throughout the province on account of the general impression that we have already too many in our ranks.

The opening exercises of the Medical Faculty of the University of Toronto were conducted in the Biological Laboratory, the president, Sir Daniel Wilson, being in the chair. The inaugural address was delivered by Dr. Adam Wright. Dr. A. H. F. Barbour, the distinguished obstetrician and gynecologist, of Edinburgh, was

present and delivered a short address, in the course of which he said that "in looking around among the different departments he had been specially struck with the biological section, and although he had before thought that the biological section of Edinburgh University was far in advance of any other, he was not now so certain of that fact."

The session in Trinity Medical College was opened on the afternoon of October 1st. when Dr. John L. Davison, the professor of materia medica and therapeutics, delivered an address which aroused the enthusiasm of the students, among whom he is very popular. Trinity's prospects for this session are said to be good, especially so far as a large freshman class indicates prosperity.

The inaugural address at the opening exercises of the Woman's Medical College was delivered by Susanna P. Boyle, M.D., a former student and now demonstrator of anatomy in the College. We have been informed that the address was an able one and was highly appreciated by those present. Dr. James Beatty, who occupied the chair, in opening the proceedings congratulated the friends of the College upon the fact that the faculty and students were comfortably settled in their new and commodious quarters. He stated that the whole number of students was about forty.

### THE WOMAN'S MEDICAL COLLEGE, TORONTO.

The Faculty of this College have established a midwifery dispensary which will provide gratuitous attendance on patients in labor at their own homes. They promise that such patients will receive proper professional attention before, during, and after their confinement; the only condition imposed being that one or two female students shall have the privilege of being present. A nominal fee of fifty cents will be required from each patient on registering her name, and the fees thus received will be used in helping to defray the necessary expenses connected with the equipment of the dispensary.

After registration by the janitor at the College, one of the staff will visit the patient and take a history of the case, and arrangements will be made for calling in the physician of the district when labor commences. In difficult cases the

lecturer on obstetrics will be called in consultation. The system adopted is complete and said to be similar to the plan which has been carried out by the Harvard Medical School, of Boston, for several years, with the remarkable record of an attendance on 1000 patients in labor at their own homes without a death.

We presume that this dispensary has been organized by the Faculty in the interests of their students: but, if their efforts are successful, the institution will be a great blessing to poor women who have not the means to procure proper assistance in their hour of need. We hope it will be remembered and supported by the profession and those of the public who take some interest in such efforts to relieve the sufferings of humanity.

#### DR. BARBOUR'S GIFT TO THE MEDICAL FACULTY OF THE UNIVERSITY OF TORONTO.

The friends of the Medical Faculty of the University of Toronto received with much pleasure the announcement of Sir Daniel Wilson, at the recent University convocation, that a friend of his had given the sum of five thousand dollars for the establishment of an annual post-graduate scholarship in the Faculty of Medicine, to be awarded to a member of the graduating class who has shown proficiency in the subjects of chemistry, anatomy, physiology, and pathology, during his course. The graduate who has received this distinction will be expected to engage in original research in science, and do work in that department which will be acceptable to the proper authorities.

It is an open secret that the generous donor is Dr. Barbour, of Edinburgh; who has recently been in Toronto. It is peculiarly interesting and satisfactory that, while this Medical Faculty has largely followed the methods of teaching which have done so much to give the great University of Edinburgh her distinguished position among the medical teaching institutions of the world, one of her greatest clinical instructors and one of her most scientific and learned professors should thus show his high appreciation of the work done in our Provincial University, and give such generous encouragement in the direction of original scientific research.

## Meeting of Medical Societies.

### AMERICAN ORTHOPEDIC ASSOCIATION.

FIFTH ANNUAL SESSION, HELD AT WASHINGTON, D.C., SEPT. 22, 23, 24, AND 25, 1891.  
(Abstract of the proceedings.)

#### ORTHOPEDIC SURGERY AS A SPECIALTY.

Dr. A. B. Judson, of New York, in the president's address, said that orthopedic surgery is specially the domain of physical demonstration where subjective symptoms give place to objective signs, where treatment is chiefly mechanical, and where results are recorded in degrees of a circle and fractions of an inch. It exists and thrives as a specialty because the general practitioner concurs with the public in committing patients who, from the nature of the case, generally recover with some deformity and disability to the care of experts.

#### CRURAL ASYMMETRY AND LATERAL CURVATURE.

Dr. H. L. Taylor, of New York, described two instances in which the leg was two inches and one and one-eighth inches short respectively. Both cases were in young women. The short limb was larger and stronger: the shortening was chiefly below the knee, and there was no lateral curvature.

Dr. A. Hoffa, of Wurzburg, Germany, described a specimen which proved that in one instance the shortness was due to union of the neck and shaft of the femur at an acute instead of an oblique angle.

Dr. F. Beely, of Berlin, illustrated with specimens of lateral curvature and ingenious models the changes which occur in the bodies of the vertebrae preceding rotation, explaining how the paraspinous sulcus is shallow and broad on the concave and deep and narrow on the convex sides, a condition which is reversed in the lumbar region by the absence of ribs.

#### TREATMENT OF HIP DISEASE.

Dr. Phelps said that traction and fixation should be enforced to prevent destruction by intra-articular pressure. Ankylosis is the result, not of fixation, but of disease. The patient should be put to bed from three weeks to four months, and should then wear a lateral traction fixation splint, which was exhibited. Children under three years are placed in a plaster of Paris portable bed, which was also shown.



Dr. Wirt exhibited a new device for traction in which the force of the lever is changed into rectilinear instead of circular motion without key, screw-driver, wrench, buckle, or strap.

Dr. R. H. Sayre, of New York, said the invention gave accurate and easy adjustment in the direction of traction, but in the direction of relaxation the control was defective.

Dr. Taylor practised rest in bed with traction in the acute stage, to be followed by a splint which allows locomotion.

Dr. Sayre thought but few cases required lateral traction. When the inflammation had ceased he applied passive motion. If the pain and tenderness following last more than twenty-four hours, the passive motion had not been rightly used.

Dr. E. M. Moore, of Rochester, believed that a joint only moderately inflamed demands motion. He employed traction with a certain amount of motion.

#### CONGENITAL DISLOCATION OF THE HIP.

Dr. Phelps exhibited apparatus for the treatment of this affection, and described his method and its results.

Dr. E. H. Bradford, of Boston, had modified the apparatus in previous use by adding an appliance with which the patient is allowed to walk about. The joint is thus protected as in convalescence from hip disease. These appliances he had made of aluminum for the sake of lightness.

Dr. C. C. Foster, of Cambridge, said the best recorded result had been obtained by Dr. Buckminster Brown, whose patient was treated by mechanical means in bed.

Dr. A. Hoffa had operated by deepening the acetabulum, which is practicable from the thickness of the pelvis at this point. At first he sewed a periosteal flap over the trochanter, but this is unnecessary. Two months ago he examined his first case, two years after the operation, and found a movable joint, freedom from the characteristic gait, and absence of lordosis.

Mr. Howard Marsh, of London, divided these cases into (1) those in which the bone slips about on the wall of the pelvis, and (2) those in which it is fixed. The majority belong to the second class, and in these operation is useless, but is more properly applicable to those cases of the first class in which the head is high

up and movable. The anterior position is the most favorable, because lordosis, which depends on the backward displacement of the head of the femur, is absent.

#### MALIGNANT DISEASE AND POTT'S DISEASE.

Dr. Judson reported three cases in which Pott's disease and malignant disease of the vertebræ had been confounded by himself and other observers. In one the diagnosis was made *ante mortem*. The patients were four and a half, thirty-five, and forty-two years respectively. The chief diagnostic points are: (1) Deformity present in Pott's disease, absent in malignant disease; (2) local disability; and (3) local pain; both absent in Pott's, and present in malignant disease.

Dr. Willard had seen two cases in which his diagnosis was confirmed *post mortem*.

Dr. Gibney reported a case in a man of forty years, in which he and others had been baffled in diagnosis. There was sarcoma of the fifth and sixth cervical vertebræ.

Mr. Marsh related the case of a child which was extremely difficult to diagnosticate, and which proved to be malignant in character.

#### SYPHILITIC POTT'S DISEASE.

Dr. Ridlon said that in this form the onset is more rapid, the pain and disability greater, the kyphosis sharper in outline, and abscesses often appear before deformity. If recognized lesions of hereditary or tertiary taint are present, treatment should be by large doses of mercury and iodide of potassium.

#### POTT'S DISEASE IN THE OLD.

Mr. Marsh had observed instances of suppurative tuberculosis in the metacarpus, tarsus, testis, cervical glands, knee and hip, in eight patients between sixty-three and seventy-three years. But senile tuberculosis of the spine is most rare. He had seen two cases. The patients were sixty-four and sixty-five years respectively. The College of Surgeons of London possessed an osseous specimen of the action of senile tuberculosis of the upper cervical vertebræ. In his "Studies of Old Case Books," Sir James Paget had recorded a case of Pott's disease in a gentleman of fifty-five attended with angular curvature.

Dr. Sayre recalled the case of a patient, æt. fifty-five, who recovered from Pott's disease with paraplegia and abscesses.

## POTT'S DISEASE AND PREGNANCY.

Dr. T. H. Myers, of New York, had collected twenty-five cases of labor in fifteen patients recovered from Pott's disease. In no instance did caries recur. But of seven cases in which the disease developed during pregnancy, three died, and three were left paraplegic. Normal parturition often follows in cases of deformed pelvis whose measurement would indicate that it was impossible. These patients should be examined by the obstetrician early in gestation.

Dr. Taylor knew of many cured patients whose marriage had been followed by the birth of healthy children.

Dr. G. W. Ryan, of Cincinnati, thought it was a question of allowing the tuberculous to marry. He knew of married women, deformed by Pott's disease, who had borne and raised healthy children.

Dr. Lee said that one of his patients with a large lumbar kyphosis had borne twelve children who, with the mother, are all in good health. He thought Pott's disease, even in the lumbar region, rarely produced narrowing of the pelvis.

## PARAPLEGIA IN POTT'S DISEASE.

Dr. Brackett said that relief from paraplegia may be confidently expected from continuous extension and fixation even in cases of eighteen months' standing. This should be continued for some time after recovery.

Dr. Young reported two cases of complete recovery in which there had been absence of sensation, a feature always of grave import.

Dr. Shaffer referred to a case in which the autopsy showed that a portion of the eighth dorsal vertebra had nearly cut through the cord, leaving but a slender thread.

Dr. Hoffa said that in these cases the spine should be put absolutely at rest. He had collected thirteen operations within the vertebral canal. Two died at once, two recovered, and would perhaps have done so anyway. In the others there were immediate good results, but relapses soon occurred. The operation has no great future before it, and should be limited to those cases in which the processes alone are affected.

Mr. Marsh said that paralysis rarely depends on the pressure of an abscess, but (1) on softening

of the cord, (2) pressure of a displaced sequestrum, and (3) most common on pressure from exudation. He would only operate after thorough trial of rest.

Dr. Willard said that we could not absolutely diagnose the cause. When there are extensive inflammatory deposits about the arches, laminectomy may relieve the posterior pressure and allow expansion of the cord.

Dr. Lee said that in all cases of this form of paraplegia suspension would materially hasten recovery.

## ABSCESSSES IN POTT'S DISEASE.

Dr. Townsend thought that, as a rule, these abscesses should not be opened. In some cases aspiration should be done, and in others the cavity should be opened and drained to prevent sepsis and danger to life. His views were based on the history of 380 patients, 75 of whom had abscesses.

Dr. Vance advocated aspiration, repeated as often as fluid is detected. In this way he cures three out of five cases. The depot is thus kept small and the extent of subsequent operations, if necessary, is limited.

Mr. Marsh had rarely obtained a good result by the use of the aspirator. He said that in his observations it is best to open freely, evacuate thoroughly, and then apply pressure to assist in closing the cavity.

Dr. Willard would let dormant and caseating foci alone; liquefying collections he would aspirate and inject with iodoform emulsion, and if true pus were present he would incise, wash out with sublimate solution, and avoid undue manipulation, which might cause fissures which would let the tuberculous poison into the system. He would then suture the incision and inject iodoform and boiled olive oil.

Dr. Shaffer would not say that incision was never advisable, but generally it is wrong to open one of these abscesses. A very large abscess cannot be washed out, and its disappearance may be confidently expected, especially if efficient mechanical treatment is practicable.

Dr. Myers said that it was proven (1) that it is impossible to completely remove bacilli from the abscess cavity, and (2) that bacilli-infected wounds at times heal primarily. Infection is more imminent after incision, because the wound lays open channels of absorption.

## WIRING THE VERTEBRAL PROCESSES.

Dr. Hadra suggested that the spinous processes at the seat of the disease be exposed and then firmly wired together to secure rest and prevent deformity. The operation, as he had performed it for fracture of the cervical spine, was extremely simple and effective.

Dr. Sayre thought the wires would not bear enough force to remove the weight from the vertebral bodies, and that outside protection would be necessary to prevent lateral and rotatory disturbance.

Dr. Judson thought it was a question whether wiring was applicable through the long periods in which consolidation is delayed. Intolerance of the skin always prevents such pressure as we would like to make on the kyphos. The method proposed circumvents this difficulty.

Dr. Moore said it was a most simple and harmless procedure, and, notwithstanding the theoretical objections, he would accept the first favorable occasion to try it.

## PROGNOSIS AND TREATMENT OF POTT'S DISEASE.

Dr. Ketch had learned from 75 cured cases that in length of treatment and degree of deformity the upper region of the spine is most favorable, and the middle least of all; that paraplegia more frequently accompanies disease in the upper than in the lower regions, and that cases of traumatic origin recover sooner than those of tubercular origin. Sudden deaths sometimes occur in cervical caries from interference with respiration.

Dr. B. Bartow, of Buffalo, said that the earliest important sign in the dorsal and lumbar regions is lateral curvature dependent on nervous tenderness. Apparatus should be constructed to oppose the rotation accompanying the lateral curvature as well as the antero-posterior deformity. He used the plaster of Paris jacket applied to effect the above objects.

Dr. Foster said that extension in *bed* is the best method in the acute stage. Extension should be made by light weights, the cords leading over the head and foot of the bed and attached to waist-belts, chest-belts, and head-straps.

Dr. Ryan said recumbency was the ideal treatment, but it is in many cases impracticable. He had found split plaster jackets efficient after the acute stage.

Dr. Lee said that many years ago when the plan had fallen into entire disuse he was the first to adopt suspension from the practice of Dr. J. K. Mitchell. The apparatus was Le Vacher's head support and jury mast, attached to a chair or go-cart, or to a door-way swing.

Dr. Sayre said that in the cervical and upper dorsal region a metal posterior splint supported on the pelvis should be used with a jury-mast, and in the lower dorsal and lumbar regions, a plaster of Paris jacket with a jury-mast. Recumbency should be practised in the acute stage; children should be placed in the wire cuirass.

Dr. Ketch had been disappointed with the plaster of Paris and jury-mast in the cervical and upper dorsal regions. He commended the Taylor apparatus and chin-piece. In the lumbar region almost any supporting apparatus will secure a good result.

Dr. Taylor said that the antero-posterior lever secures rest and protection and combats deformity. Old and neglected cases are especially amenable to treatment, just as ankylosis is later and rarer than is generally supposed. Abscesses and paraplegia do not forbid a favorable prognosis.

Dr. Bradford said that the plaster of Paris jacket was the readiest method, but had its disadvantages: that a steel brace gave better support, but demanded more skill and care; and that recumbency was the surest way to prevent deformity, but, as a rule, was impracticable for the long periods covered by the disease.

## RHEUMATIC SPONDYLITIS.

Dr. Ryan said that this rare affection should not be confounded with rheumatoid arthritis of the spine. It is usually accompanied by rheumatic manifestations elsewhere. In the early stage the symptoms resemble those of tubercular spondylitis. Later the deformity is not angular but resembles that of senile kyphosis. Treatment should be directed to the relief of pain by support, cautery, and medication. In the chronic form, when pain has lessened, mobility should be encouraged by passive motion.

Dr. Headley deplored the confusion which is found in the nomenclature of these conditions which produce such a variety of results. He thought both rheumatism and osteo-arthritis were microbic diseases. If ligamentous struc-



tures interfere with motion, passive motion was proper.

Dr. Lee was reminded of a case which was at first thought to be spinal myalgia, but which proved to be gouty disease of the cartilages, an infrequent affection. Apparatus afforded relief but of course not cure.

Dr. Ryan said that gouty spondylitis is generally attended by manifestations in other parts of the body. He had failed to state that his patient had limited respiratory movements.

Dr. Vance related a case in which there was, in addition to the spinal affection, complete immobilization of the thorax with chiefly diaphragmatic respiration.

Dr. Bartow had seen a case in which relief was afforded by the spinal jacket.

Dr. Gillette reported a case which, at the first glance, resembled the deformity of Pott's disease, but which proved to be rachitic in its etiology. Improvement followed a few days after suspension was begun.

#### SACRO-ILIAC DISEASE.

Dr. Lee said the sequence of events is as follows: (1) injury of the synchondrosis, (2) subacute inflammation, (3) irritation of the nerves of the joint, transmitted to the nearest plexus, (4) resulting pain in the sciatic. The sciatica should be considered the result, not the cause, of all the trouble. In nine cases out of ten neuralgia is the effect and not the cause of any trouble. As stooping in sacro-iliac disease is injurious, he had devised a handy instrument with which the patient can pick up an object from the floor while remaining erect.

### Pathology.

APPARENT ANTAGONISM BETWEEN THE GERMS OF ERYSIPELAS AND SYPHILIS.—Horwitz (*Phil. Med. News*, No. 949) notes two cases of syphilis which, until after accidental infection with erysipelas, resisted anti-syphilitic treatment, but, subsequently to the attack of erysipelas, improved rapidly. Apparently the streptococcus of erysipelas antagonized the bacillus of syphilis to such an extent as greatly to modify its virulence. The natural history of the bacteria shows that in many cases they are strongly antagonistic to one another, and that

the growth of one frequently means the death of another. Cases of retardation, and even of cure, of new growths by inoculation with erysipelas germs have also been recorded. The pneumonia germ of Friedlander and the anthrax bacillus will not grow together. There appears to be room enough for experiment here and but little occupation of the field. Perhaps the *least* advances in the future, in treatment, will not be in *this* direction. J.C.

MALARIA AND THE CAUSATION OF INTERMITTENT FEVER.—Henry Baker (*Journal of the Amer. Med. Assn.*, Vol. XV., No. 16, 1890, Chicago) attempts to show that malaria depends essentially upon atmospheric relations, particularly upon temperature, and believes that this view accords very easily with that according to which malaria has heretofore been called a germ disease. The opinion of the writer seems to be that the organisms are not the cause of the disease, but that this is rather to be found in the effects of rapid changes of temperature upon the body. The changes in the red blood corpuscles he attributes to the withdrawal of chloride of sodium in the perspiration. He is of opinion that the phenomena of the disease can thus be explained as well with as without parasites, and states his views in these words: "It seems to be a generally established fact that where a highly organized being undergoes decay, organisms take the opportunity of entrance, and when these are of microscopic size we call them micro-organisms." By means of three tables of curves, the writer illustrates his idea of the connection between temperature and malaria. According to this, the relation between elevations of temperature and the progress of malaria is certainly remarkable. J.C.

### Book Reviews.

*Therapeutics: Its Principles and Practice.* By H. C. Wood, M.D., LL.D., Professor of Mat. Medica and Therapeutics in the University of Pennsylvania. Philadelphia: J. B. Lippincott Company.

The three years which have elapsed since the issue of the seventh edition of this work have seen unprecedented advance in therapeutics, necessitating a thorough revision and many additions to bring the treatise up to date.

Practically new are the articles on anaesthetics, cocaine, strophanthus, caffeine, antipyrin, anti febrin, phenacetine, paraldehyde. The newer coal-tar products, such as sulphonal, aristol, etc., are fully dealt with. We know of no work on therapeutics to take the place of this. It holds a place all its own. In none other will be found so complete an account of the advance in knowledge of the physiological action of each drug. Special care is taken to give all necessary references, so that, if desired, the original authorities may be consulted.

*Practical Pathology and Morbid Histology.* By Heneage Gibbes, M.D., Professor of Pathology in the University of Michigan.

This is not intended as a text-book in pathology, but as an aid to the student in the laboratory. It embraces instructions in preparing, cutting, staining, and mounting microscopic specimens according to the methods employed by the author and thought by him to be best. These, of course, it is difficult to criticise, since every pathologist follows the methods with which he has had most success, and the results of the most competent workers in all methods would require to be compared to form a fair estimate. The latter part of the book is descriptive of morbid tissues. In his preface the author speaks approvingly of the illustrations, which are reproduced by photogravure from photomicrographs. We cannot agree with him. Until photomicrographs can be made much more clear and exact in details, they will be of little use for students. The diagram is necessary. As specimens of photomicrography, they are excellent.

### Pamphlets Received.

*On the necessary precautions to be taken to obtain the most benefit from the climate of Nice and the Riviera.* By Thos. Linn, M.D.

### Personal.

UNIVERSITY OF TORONTO.—Appointments in the Medical Faculty. The committee of the Medical Faculty, in their report presented to the Senate, Oct. 10, made the following recommendations: A. McPhedran, M.B., to be associate-

professor of clinical medicine. G. A. Peters, M.B., F.R.C.S. Eng., to be associate-professor of principles of surgery and clinical surgery; A. B. Macallum, B.A., M.B., Ph.D. Johns Hopkins, to be professor of physiology; Jas. M. Macallum, B.A., M.D., to be professor of pharmacology and therapeutics; John Caven, B.A., M.D., L.R.C.P. Lond., to be professor of pathology. The report was adopted without amendment.

At the meeting of the Huron Medical Association, Oct. 13, Dr. J. E. Graham, of Toronto, was elected an honorary member. Dr. Bruce Smith, of Seaforth, is president, and Dr. N. Gunn, of Clinton, secretary of the association, which is in a flourishing condition.

DR. HARRY OLDRIGHT, of Toronto, has been appointed Surgeon to the steamer Coanza of the British and West African Steamship Line. He sailed from Rotterdam in September and expects to be about three months and a half on his voyage.

PROF. RUDOLPH, the distinguished German pathologist, is 70 years of age. On his birthday, Oct. 13, the mayor of Berlin presented him with the deeds conferring on him the freedom of that city.

At the recent Convocation of the University of Toronto and University College, Dr. L. McFarlane, as the representative of the Medical Faculty, delivered an admirable address, which we publish in this issue.

DR. A. H. F. BARBOUR, of Edinburgh, who has for some time been the guest of Sir Daniel Wilson, of Toronto, left for the Pacific coast, October 7th. He is taking a trip around the world.

DR. CHARLIE TEMPLE, one of the resident assistants in the Toronto General Hospital, had a serious attack of inflammatory rheumatism, but has quite recovered.

DR. P. H. BRYCE has gone to Kansas to attend the meeting of the American Health Association.

## Therapeutic Notes.

EUROPHEN, the new iodine compound, is a fine yellow powder, of an aromatic, saffron-like smell, insoluble in water and glycerine, slightly soluble in alcohol, ether, chloroform, and oil. It contains 21 per cent. of iodine, and is decomposed by contact with water. Coming into contact with the blood, an alkaline fluid, iodine is given off very energetically, but new compounds are at once formed. Iodine quickly appears in the urine. Europhen is said to be as good an antiseptic as iodoform, possessed of the same property of drying up secretion, and preventing suppuration. It has been used successfully, both externally and internally, in various forms of syphilis.—*Fortschritte der Medicin.*

PRURITUS VULVÆ.—Tarnier (*Rev. internationale de bibl. Méd.*, No. 2, 1891) uses the following:

|                      |                    |
|----------------------|--------------------|
| R.—Sublim. corrosiv. | 2.0 (grs. xxx).    |
| Alcohol,             | 10.0 (fl. ʒijss).  |
| Aq. rosæ,            | 40.0 (fl. ʒjss).   |
| Aq. destill.,        | 450.0 (fl. ʒxiii). |

Sig. Apply this lotion morning and evening.

It is of especial service in pruritus vulvæ of pregnant women. Its application may at first produce a sensation of burning, which will necessitate the application of cold compresses.

ECZEMA OF THE ANUS AND GENITAL ORGANS.

—Lustgarten advises the following ointment:

|                       |                   |
|-----------------------|-------------------|
| R.—Oleate of cocaine. | gr. xij. to xxiv. |
| Lanolin               | ʒi.               |
| Olive oil             | ʒij. M.           |

Apply twice daily, and after each application powder the affected part with an absorbent powder.—*Med. and Surg. Reporter.*

SEAT WORMS.—

|                   |            |
|-------------------|------------|
| R.—Tr. Rhei       | minim xxx. |
| Magnesia Carbonat | grains ij. |
| Tr. Zingiberis    | minim j.   |
| Aq. q. s. ad.     | ounces iv. |

M. Sig. Warm and use as an injection ter in die.—*Annals of Gynecology.*

FOR PRURITUS.—

|                   |             |
|-------------------|-------------|
| R.—Chloral Camph. | drachms ij. |
| Bismuth S. Nit.   | drachms ij. |
| Aq. Rosæ ad.      | ounces jx.  |

—*Ex.*

## Miscellaneous.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The 19th annual meeting will be held at Kansas City, Oct. 20th to the 24th, 1891. The Local Committee of Arrangements announces that all the Railway Passenger Associations of the county have granted a one and one-third rate fare for the round trip on the usual certificate plan, that is, (1) procure a certificate of attendance from the agent at the starting point by paying full fare to Kansas City; (2) have the certificate of attendance signed by the proper officer of the Association at Kansas City. This certificate will then procure return ticket for one-third fare. All the leading hotels of Kansas City will give special rates to delegates. Arrangements are being perfected for an excursion into Kansas as one of the features of the entertainment of the Association. For any information as to the meeting address Dr. E. R. Lewis, Chairman, or Dr. Joseph Sharp, Secretary Local Committee of Arrangements, Kansas City, Mo.

MOSQUITO BITES.—A writer in a German contemporary says that for mosquito bites he has found in his own person nothing better than ordinary soap. If he is bitten he makes a lather over the affected part and allows it to dry on. The burning is at once relieved, and all pain ceases. The application can be repeated as often as required.—*Pac. Rec. of Med. and Surg.*—*N. Carolina Med. Jour.*

MISS FRANCES CHADWICK is the first lady to enter the profession of pharmacy in Australia. In Russia, Norway, Belgium, Denmark, and some other European countries, women are allowed to practise pharmacy, but they have shown very little interest in the matter.

PEROXIDE of hydrogen has been used to sterilize milk. When mixed in the proportion of five or six tablespoonfuls to the quart of milk, the milk will not curdle or become sour for forty-eight hours at the summer temperature. The cream from such milk is so sweet that butter cannot be made from it for a considerable time.—*T. and R.*

MEXICO has nine medical schools, in each of which the course of study is six years.—*Ex.*



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## Original Communications.

### THE VALUE OF THE STUDY OF MEDICINE.\*

BY R. M. BUCKE, M.D.,

Medical Superintendent of the Asylum for Insane, London, Ont.

At first sight nothing seems more obvious than the value of the study of medicine, but as a matter of fact there are few things less so; for what seems its greatest value is in reality its least, and its greatest value is either not seen at all, or when seen not recognized.

In the minds of most people the chief, if not the only, object of the study of medicine is the cure of disease, and no doubt it has some value in this direction, though wonderfully little as compared to what is generally believed. A few diseases can be cured, but by far the greater number cannot be cured by any means known to the world at present. Of those diseases which cannot be cured some lead inevitably to death; the rest, after running a longer or shorter course, spontaneously subside, and the patient regains his health. But it does not follow that in cases where the science of medicine cannot cure it is therefore valueless. In cases where the disease leads with sure steps, faster or slower, to death, there are few instances in which life cannot be prolonged and suffering lessened by a wise use of the means at the disposal of the trained physician. Neither does it follow that the science of medicine is useless in

cases where, though the disease cannot be cured, its natural tendency is towards recovery, for in such cases the comfort of the patient can often be greatly promoted by judicious management. And a knowledge of the natural history of the disease will often enable the physician to give such advice and warning as may lead to the avoidance of serious mistakes, which might, and probably otherwise would, be made by those in charge of the sick person, or by the sick person himself. The study of medicine, therefore, is valuable, first, for the cure of disease; second, for the relief of suffering; third, for the prolongation of life; and fourth, for the management of such diseases as tend to get well of themselves.

All these are very well, and when any of us are sick we are glad to get an educated physician to tell us what to do and to help us get better; but they are, all put together, a small matter compared with the next factor in the value of the study of medicine which is to be mentioned, namely, the prevention of disease.

This is the field in which medicine has made its great practical conquests, and those that it has made in this field I firmly believe are trifling compared to those that await it in the near future. But consider for a moment what has been done already in this direction. Many of the most deadly diseases, such as the plague, cholera, and small-pox, have been either entirely or almost entirely stamped out in civilized countries, and the avoidance of other diseases, such as typhoid fever, is surely, if somewhat

\*Abstract of introductory lecture delivered at the opening exercises of the Medical Faculty of McGill University, October 1st, 1891.

slowly, following. By special means, such as vaccination, and by general sanitary means, such as cleanliness, ventilation, and drainage, not only these special diseases, but a large number of other ailments have been rendered less frequent, and, when they do occur, less fatal.

In the matter of diet, and more especially in that of drink, the inhabitants of civilized countries, guided by medical science, have of late years made vast strides towards a more rational and more healthy life; thus it is now demonstrated that alcohol is always injurious when taken as an habitual article of consumption. This knowledge, now gradually permeating the masses everywhere, is unquestionably destined to lead at last to the total disuse of alcoholic stimulants.

Some idea of the value of general hygienic knowledge may be gathered from the single fact that whereas early in the eighteenth century *three* out of every four children born in London, England, died under the age of five years, at present only *one* out of every four dies during those years. Or to put it another way: one hundred and seventy-five years ago, of all the children born in London, only one-quarter lived to be five years old; at present, of all the children born in that city, three-quarters live to be five years old.

What has already been done in the way of prevention of disease, great as it is, is probably trifling compared with what will be done in the immediate future, since this branch of medicine is advancing with gigantic and ever-quickenings strides. As the exact nature and cause of the various diseases are discovered, means will be found, not dreamed of yet, to prevent their occurrence. Already medical science is beginning to point out how such common and terrible scourges as consumption and insanity should be attacked, and I have no doubt myself that in the course of another century the acute specific fevers, such as scarlet fever, measles, typhus, typhoid, and the rest, will be stamped out of all civilized countries. In fact, it is impossible to overestimate the good that medical science has already done or may yet do for mankind in the ways mentioned; in the ways, namely, of relieving suffering, curing disease, and, above all, preventing disease. I be-

lieve that it was well that man, being in all other respects constituted as he was, was created liable to accidents and diseases that he might be stimulated by these to the study of his own body and mind and of nature, in order that he might gain some knowledge of these diseases and the means by which they might be prevented, cured, or relieved. For man is naturally indolent, and, unless he had been driven as he was by the pain of disease and the fear of death, it is certain that he would have remained until to-day as ignorant of his own structure and nature as he was ten thousand years ago.

As I understand it, then, disease and death, and especially the *fear* of disease and death, have been and are good friends to man, and not enemies, as generally supposed; for by them man has been driven to investigate the laws which govern his own life, as well as those which preside over universal nature. The immediate purpose of his study has been and is to defeat disease, and in this purpose he has been, as we have seen, largely successful. But by and through this same study he has achieved something far more valuable than that which he sought. He has achieved, namely, or is in process of achieving, the liberation of the human mind. For what does the study of medicine, after all, mean? It means the study of *man*. But in order to understand man we must first understand his surroundings; that is, the world in which he lives. The study of medicine, therefore, means the study of man and of all his surroundings, that is, of all things with which he is in relation; in other words, the study of himself and all things which do or may affect him prejudicially or beneficently. This study is, therefore, universal, and the following instances will show how it comes to be so. We want, for example, to understand the eye in order that we may treat its diseases and remedy its various defects, but the first thing we discover about it is that it is an optical instrument, and that nothing can be thoroughly understood about it until the laws of optics are mastered; so we had to and did study light. So we want to understand the ear in order to treat its diseases, and in the same way we find that it is an acoustic instrument, and that nothing can be satisfactorily understood about it until the general laws of sound have been elucidated;

we therefore study and finally master the science of acoustics. Botany is one of the tributary sciences of medicine, and was created for its purposes in order that the vegetable kingdom might be forced to render up such substances as it possessed capable of being utilized in the treatment of disease. In order that man's true place in creation and his relation to the animal kingdom might be established so that the structure and functions of the various parts of his body might be comprehended, the great science of comparative zoology was instituted, and the development hypothesis, that vast and magnificent scientific structure built up within the present century by the labors of Lamarck, Isidore Geoffroy Saint Hilaire, Wallace, Darwin, Lyell, Huxley, Haeckel, and Herbert Spencer, may be properly looked upon as a mere outgrowth of the science of medicine.

When we look at the subject more deeply and consider it more profoundly, the above are seen to be comparatively trivial instances. We discover that man, standing, as he does, in nature and as part of nature, and also at the summit of and, in a sense, above nature, all the rest of nature is tributary to him and leads up to him; that therefore the right understanding of man involves and supposes the right understanding of much that is not man.

It will be interesting and perhaps instructive to follow this proposition into some detail, and in order to do so I propose to show how a number of ascending lines, starting from the various departments of lower nature, converge toward and at last meet in that miracle of elaborate organization, the human body. These lines or series may be designated as, first, the Morphological Series; second, the Histological Series; third, the Chemical Series; fourth, the Dynamical Series; and fifth, the Psychological Series.

(1) The Morphological Series is the term used to designate the ascending sequence of forms which passes in an unbroken order from the lowest animals up to man. No member or organ in the human body can be fully understood until it has been traced throughout this series. For the various members and organs of the human body were not originally created as they exist in that body, but have each one of them a long history, stretching far back into prehuman times.

As in the case of the separate organs, so in the case of the entire individual. The study of man, which has been forced upon us by the dread of disease and death, has gradually opened our eyes to the fact that there is an intimate relationship between ourselves and other animals who occupy a lower place in the scale of creation than we do. We have learned that every organ in man, down to the most minute, is tallied by a similar organ in any one of the higher animals that we may choose to select and examine; and that any organ which exists in any one of the higher animals will be found in man also if it be looked for. Even, strange to say, in cases where man has no use for the organ, still he has it. For instance: Man's external ear is motionless; he has, therefore, no use for the muscles with which the lower animals move their ears, but for all that he has them. Again: All the apes use their feet, as well as their hands, to grasp with: they can all use the great toe as we use the thumb, that is, they can oppose it to the other toes and seize and hold sticks, nuts, or other things, between the great toe and little toes, just as they or we can seize and hold small articles between the thumb and fingers. We have no such power; we cannot make use of our toes in this way; still every muscle which exists in the foot of the ape by means of which he executes the movements in question exists also in our feet, but we make no use of them, and can make no use of them. Did we ever make use of these muscles? If so, when? If we never used them, why were they placed in our feet? Why should dozens of muscles be made and carefully placed and connected in our feet for no purpose? The muscles in question are now greatly atrophied for want of exercise. Were they created in this atrophied state, or were they created to be used, and have they since shrunk for want of exercise? Another instance: Cattle, horses, and many other of the lower animals, have a broad, flat muscle just under the skin of their neck and shoulders (a part of the body to which their tails will not reach), by means of which they shake the skin covering these parts and so drive away flies which have settled there. We also have that muscle in our bodies; it is called the *platysma myoides*, but we have no use for it, and could not use it if we wanted to do so,



since from long inaction or some other cause its fibres have become in us incapable of contraction. Did *we* ever use that muscle? And, if so, when? If we never used it, why was it placed in our bodies? Once more: You all know that while we, in common with all land animals, breathe with lungs, the whole family of fishes breathe with gills. In our body there is a large artery, called the *pulmonary*, which carries the blood from the heart to the lungs to be aerated. In fishes there is a corresponding artery called the *branchial*, which carries the blood from the heart to the gills for the same purpose. But the gills are much further from the heart and nearer to the head than are the lungs; it is therefore easy to distinguish by its position a rudimentary branchial from a rudimentary pulmonary artery, and rudimentary gills from rudimentary lungs. Now it is a fact that at a certain stage of the development of an individual man, or of any other individual land animal, they have each and every one of them, both men and animals, rudimentary gills and rudimentary branchial arteries. These undeveloped organs are of course of no use to man or any other land animal; why, then, do they find a place in their bodies? Such anomalies as these might be mentioned by scores.

I have said that the great value of the study of medicine is not the cure or even the prevention of disease, but the liberation of the human mind, and you may now catch a glimpse of one way in which it effects this liberation. The fear of disease and death forces man to seek means whereby these may be warded off; this search leads, along with much else, to the study of human anatomy; in studying anatomy we encounter the anomalies to which I have just referred and innumerable others like them; in order that light may be thrown upon these apparently meaningless freaks of nature, general or comparative anatomy must be and is studied; a knowledge of this leads to such results as I have set forth.

(2) The second series is the Histological, a large subject, upon which only a few words can now be said. You are, probably many of you, aware that each one of our bodies is built up of millions and millions of cells. These cells are not by any means all alike: every organ, each tissue, has its own kind of cell of which it is

constituted, so that in the human body there are not only many hundreds of millions of cells, but there are several hundred different kinds of cells. As we descend the series of organic forms from man, the highest to the very lowest, we find that the lower we go in the scale, the fewer different kinds of cells the animal has, until we come to the very lowest of all animal forms, and we find that of these each one is composed of a single cell. Here, then, is another marvellous series: First, animals consisting each of a single cell; then animals consisting each of a number of cells, but all the cells of the same kind; then animals consisting of two kinds of cells: then of a larger and larger number of cells and of kinds of cells; until we ascend to man, whose body contains a greater number of different kinds of cells than that of any other creature.

But now comes a curious fact: Man's body (as well as the body of every living creature, animal or vegetable) *begins* its individual life as an animal of one cell. This cell is multiplied by growth and division, and, after a certain amount of development has taken place, instead of one there are many cells all of one kind; then some of the cells grow (as it were) apart from the rest, and we have many cells of two kinds: as the embryo develops, we have both a larger and larger aggregate number of cells, and a larger and larger number of kinds of cells, until we have at last the immense number of cells and of kinds of cells found in the full-grown man.

So here again we have two series corresponding with one another; the infinite series, namely, of the different animal forms from the unicellular to the most multicellular, and the series through which the individual man passes from his origin as a unicellular living form to his million-celled maturity.

(3) The third series to which I wish to direct your attention is the Chemical. One of the first things we learn when we begin the study of medicine is that life is almost entirely a chemical progress; that the body consists entirely of chemical molecules; that these are constantly breaking down and as constantly being renewed. We are, in fact, each one of us, from moment to moment, not metaphorically, but actually, constantly dying, and as constantly being recon-

stituted. This is the essential process which underlies all life; not that of man only, but the life of all animals and of all plants. This process is what might be called vital chemistry, but vital chemistry rests upon, absolutely depends upon, organic chemistry, and this again as absolutely rests upon and depends upon inorganic chemistry; so that these two last named had to be mastered before vital chemistry could be successfully studied.

(4) And if we pass now to the fourth or Dynamic series, we shall see that this is just as true of the *forces* which animate our bodies as it is of the *material* of which these bodies are built up. Just as the matter of which our bodies are composed is related to all other matter—is built up of dead matter and returns to dead matter again—so is it equally true that every one of the varied forces which reside in our frame, and which we call vital forces, is merely borrowed for a moment from the great ocean of force in the outer world, and when used is returned to that again. And this is true not only of the force which drives the blood through our arteries and veins, of the force which we exert with our limbs, and the force with which we breathe; but it is true also of those far more ethereal and (so to speak) human forces called thought, desire, emotion, passion, and will. So true is all this that it is now well recognized that before the forces that make up the life of a human being can be in any radical sense comprehended, it is necessary to understand not only the vital forces generally (those of the vegetable as well as those which belong more especially to the animal kingdom), but those of inorganic nature also.

When these last have been mastered we find that they all, motion, heat, light, electricity, magnetism, chemical affinity, are continually passing into one another; that the same unit of force is at one moment one, and the next moment another of these; that they each have a definite value in relation to all the rest; that, for instance, so much motion is equal to (will produce) so much heat; that so much chemical force is equal to (will produce) so much electricity; that so much light is equal to (will produce) so much magnetism; and so on of them all. Not only so, but as with matter so with force. As far as our experience goes, none is ever

created and none is ever lost; but the total quantity in the universe remains always exactly the same. And just as light, heat, magnetism, motion, and the other forces of the inorganic world, are continually passing from one of these forms to another, so also in a living body are these inorganic forces becoming from moment to moment vital forces; and the vital forces are as constantly reassuming their original non-vital character. The same substance which was yesterday food is to-day a part of my living body, and to-morrow will be part and parcel of what we call the dead world. And the force which one moment ago existed within my brain as chemical affinity is now a thought, and in another instant will be heat. But what I especially wish to draw your attention to is that all vital dynamics, of which I have just presented a momentary glimpse, is a constituent and necessary part of the study of the human body and therefore of the study of medicine; and that that study involved and necessitated the mastery of the laws of the forces of the outer world.

(5) In still another series of facts we see the same truth illustrated. Man has not only a body, but a mind as well. *Ab initio*, the study of the human mind was part of the study of medicine. Before the time of Hippocrates, physicians studied psychology and classified mental diseases, and ever since the healthy and the diseased mind have been among the primary objects of medical science. To throw light on this great subject all nature has been ransacked, but, above all, the mental operations of animals, from the lowest to the highest, have been explored and considered. And with this result, that here again we find two parallel series, the one in man and the other in animals, leading from the same point to the same point and each pursuing on its way the same route. Low down in the scale of animated nature mind has its deepest taproot in protoplasmic movements, in non-nervous adjustments, in partly nervous adjustments, and in nervous adjustments—then what may be called mind itself begins in the rudiments of sense, the faculty to feel pain and pleasure. With this faculty, or immediately after it, comes memory; then the primary instincts, as surprise, fear, and association by contiguity. As we ascend the animal scale, we

find successively added to these associations by similarity, jealousy, anger, play, reason, affection, recognition of individuals, communication of ideas, sympathy, recognition of images of things as in pictures, understanding of words, dreaming, emulation, pride, resentment, love, ornament, terror, understanding of mechanisms, grief, hate, cruelty, benevolence, use of tools, revenge, rage, indefinite morality, shame, remorse, deceitfulness, apprehension of the ludicrous.

But now take the individual man, study him from his origin and you will find the same functions unfolded in the same order. Why? Why should my mind as well as my body begin as infra-human and gradually become human? And if it must begin as infra-human, why does it in its evolution follow the exact path which is pursued by the growing mind of a dog, an elephant, or a baboon? And why does it also resume and summarize in its growth before it surpasses the animal mind, from its beginning in the lower forms of animal life to its apex in the tribes of the anthropoides? Here, again, you see, are two parallel series, for a knowledge of which the world is indebted to the study of medicine. And the study of these series in its far-reaching results, its transcendent revelations, has done perhaps more than any other toward the elevation and liberation of the human soul. For the results which I have hinted at are only the germ of what may be called modern psychology—the science of the evolution of the human mind.

The study of medicine, then, means the study of chemistry, biology, and psychology. That is, the study of all life, including mind, and of the molecular relations, combinations and reactions which underlie life. If medicine has given us these vast sciences (and she certainly has), might I not well be content to stop here and rest my case, pointing to them and saying: Here, gentlemen, is the value of the study of medicine? But no, I cannot pause even here, for—I am forced to say it—the main value of the study of medicine remains still to be stated. That main value is not direct, but indirect. Let me explain.

It was definitely shown early in the century by Auguste Comte, and later and still more exhaustively by Herbert Spencer, that chemistry underlies biology, that the latter cannot be

understood until the former is mastered; also that biology underlies psychology, and that, as before, the comprehension of the former of these is a necessary preliminary to the effective study of the latter. By the same line of reasoning these great thinkers make it clear that a mastery of biology and psychology is an absolute prerequisite to anything like a scientific conception of sociology; that is to say, we cannot understand the meaning of social facts nor of social relations until we have first made ourselves more or less familiar with the laws that govern the life of the individual.

It is not difficult to see in a rough way the truth of these propositions; for the mind being a function of a part of the body, and being influenced from moment to moment by the condition of the body, any one can understand that the body must be comprehended before the mind can be so. And mind being, as it is, an offshoot or prolongation of body, and depending on this for its very existence, it is easy to see there must be a close analogy between the laws of the two, and that that one of them which first came into existence must have had almost everything to do with establishing the laws for its own offspring. It is still more evident that a knowledge of mind must precede a right understanding of the laws that govern societies, since social movements of all sorts spring directly from the mental states, powers, and aptitudes of the individuals who composed the societies.

As an example of the way biological and psychological knowledge influences social judgments, feelings, and procedure, I may instance the change that is at present taking place in the views and feelings of mankind towards the degraded members of the social body, and in consequence the altered treatment these are receiving from their fellows. It is not long since lunatics were looked upon and treated almost as wild and dangerous animals, but a knowledge of psychology has totally changed our opinions and feelings in their regard, and has in the same degree altered our treatment of them. The same process is now at work upon our mental attitude towards criminals, and I wish here to call your attention to the extraordinary interest of this subject, which has been of late years deeply studied almost everywhere



except (strangely enough) by the English and among the English-speaking peoples.

It is now understood by those who have studied the anatomy, physiology, and psychology of the class called criminals that these in place of beings persons (as formerly supposed) who might, if they liked, be good citizens, but who have wilfully elected to lead vicious lives, are, in fact, imperfectly developed organisms, who, being defective *ab initio* in some one or more of the elements of mind that go to make up an average man or woman, are driven to the life that they adopt by a fate as inexorable as destiny itself; that they are rarely, if ever, proper subjects for moral reprobation, but are simply imperfect human beings whose instincts and acts are to be, not punished, but educated and (in the meantime) guarded against by the rest of the race.

A criminal (speaking broadly and roughly) is simply a person who was born with a defective moral nature, just as an idiot or imbecile is a person who was born with a defective intellectual nature, just as a person who is color blind is an individual who was born without color sense. The philosophy of all these cases is the same; it is covered by the word *atavism*—that is, a lapse to a prior condition. There was a time (not so long ago, either) when our ancestors had little or no moral sense, comparatively little intelligence—no color sense—no sense of musical harmony—no sense of fragrance. Individuals born to-day, lacking any one of these, are simply cases of *atavism*; they are individuals from whose constitution certain previously acquired qualities have been, by some accident, dropped; they are not monsters, nor are they something new created by a freak of nature. And when a man is born with little or no moral sense and so commits acts perfectly natural to him, but which, perhaps, intensely shock the feelings of other persons who have the moral sense well-developed, he is, properly speaking, no more a subject for moral reprobation than is the person who is born with a defective intellect, or the person who is born without the sense of color, melody, or fragrance. Such a person is no more a proper subject for punishment than is an average man, because *his* life was not as pure as that of the best man that ever lived; no more, indeed, than is the best man that ever

lived, because *his* life was not far better still than it had been.

A person born with a criminal constitution does not need to be damned either by God or man—he is damned already. He does not need to be punished—he is punished already. To such a being all the higher, purer, and better instincts of the race are denied; he is shut out from all enjoyments but the grossest and most sensual; while at the same time he has a more than ordinary capacity for fear, hate, envy, and all other feelings which are in themselves sources of wretchedness to the person in whom they reside and to all who are brought into relationship with him. Such a being is more deserving of pity than is any other person whatever: his fate is more to be deplored than that of the lunatic, idiot, imbecile, or slave. The feelings of horror and dread with which society has looked for centuries upon lunatics are sufficiently disgraceful to it, but they are not half so much to be deplored and deprecated as are the feelings of abhorrence, aversion, and hatred with which it has looked down in lofty and virtuous scorn upon the wretched criminal. All this now is being gradually changed, and the time is coming when punishment of members of this class will be as much a thing of the past as is that of lunatics at the present time. As long as there are criminals, doubtless society must protect itself from them: this it will not fail to find means of doing; but the day is surely coming (and is perhaps not far distant) when the gallows, the whip, and the jail will be obsolete as are to-day the stake, the thumbscrew, and the rack, or as are, in the case of the lunatic, the chains, the scourges, the dungeons, and the other multiplied horrors of old Bedlam.

Gentlemen, I have done my best under the circumstances to show you in faint outline upon how proud a field you are entering, how glorious a heritage has descended to you from the work of the great pioneers of our grand profession; but remember this, it is only yesterday that this vast meadow became ready for the scythe, and so far only a few swaths of the good grass has been cut. Take off your coats, then, and buckle to it. The labor is great, but not greater than the reward. Does it seem impossible to master so much and then advance beyond? Never think so. Resolve to achieve, and you will achieve. Resolve to conquer, and the victory is half won.

# THE ADDRESS OF THE PRESIDENT OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNE- COLOGISTS.\*

BY ADAM H. WRIGHT, B.A., M.D., M.R.C.S. ENG.,  
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When we separated after our pleasant and profitable meeting in Philadelphia last September, it was expected that we would meet this year in Washington as members of the Congress of American Physicians and Surgeons. The Congress, however, has refused to admit us, and therefore we are not going to Washington.

I desire, with the permission of our Executive Council, to place on record a plain statement of facts respecting the negotiations which have been carried on between that body and our Association. In the year 1886, after careful consideration on the part of certain representative physicians and surgeons of the United States, it was decided to form such a Congress. Preliminary invitations were sent to the various special societies, asking for their assistance and consideration in the new undertaking. All the societies then in existence, except one, returned favorable replies. The American Gynecological Society alone refused to co-operate. In the report of the meeting of this society for 1887, which appeared in the *New York Medical Record*, we find the following words: "The proposition to become a part of the American Congress of Physicians and Surgeons was not adopted." The promoters of the proposed confederation were naturally disappointed and considerably discouraged by the action of this strong and able society. They desired a representation of the important subjects of obstetrics and gynecology. After a conference, some strong friends of the Congress decided to organize a new society of obstetricians and gynecologists. A preliminary meeting of a number of prominent obstetricians and gynecologists was held in Buffalo, April 19th, 1888, with that object in view, and the result was that the American Association of Obstetricians and Gynecologists was organized, not in opposition to any other society in any sense, but largely in the interest of the new Congress. For some months these promoters of our association did some prodigious

work in their efforts to perfect the organization. I have been advised to mention no names in this connection, and I rather regret that I have acted on such advice, because I feel that I am scarcely doing justice to men who worked quietly but persistently for many weary months to make the association a credit alike to the continent of America and the Congress which it expected to enter.

In due time our organization was fairly completed. Those who had worked so faithfully and so unselfishly began to feel that their efforts had been crowned with success. A formal application for admission was sent to the Congress. In the meantime, however, a change had come over the society which had formerly opposed the proposed Congress. Whether this marvelous change was brought about by our organization, I know not; but it was a singular coincidence that the applications from the old Gynecological Society and the new Association of Obstetricians and Gynecologists for admission to the Congress were practically made at one and the same time. After some deliberations by the executive authorities of the Congress, it was decided that the society which had shown pronounced hostility to the Congress up to the date of its sudden conversion and application for admission should be received, and that the new organization, which had been formed to assist the confederation in a serious emergency, should be put on trial for a couple of years. In accordance with this remarkable decision the following resolution was passed:

"Resolved, that it is the sense of the Executive Committee that they will not consider the application of any society which has not held at least two annual meetings."

This decision was received with a certain amount of surprise, but with becoming meekness and humility; and we entered into our period of probation with some feelings of disappointment, but with strong hopes that our work would be judged on its merits, and duly recognized at the proper time. At the end of our second year we felt extremely gratified at the work which had been accomplished by our members. We felt certain that our two published volumes of Transactions would quite fulfil the requirements which had been exacted from us. These volumes were duly filed, substantially constitut-

\*Delivered at the fourth annual meeting, New York, Sept. 18th, 1891.

ing our second application, to which we received no reply for many months.

Shortly after our meeting in Philadelphia we received a communication asking for twelve copies of each volume of our Transactions. This was a third surprise and disappointment to us, but we presumed that the request was made in good faith, and we acted accordingly. Our third meeting was so successful from every point of view that we thought a perusal of the Transactions would strengthen any favorable impressions which had been created by the former two. It was to a certain extent embarrassing to us, because we were unable to announce definitely the time and place of our next meeting. Our third volume was completed as soon as possible, and the thirty-six books forwarded to the Executive Committee of the Congress. When all the evidence as to our position was received, the committee did not arrive at a conclusion suddenly or rashly; they took ample time for deliberation, and while they were deliberating we were waiting. Month after month dragged along, and still the decision came not. The patience of our Council during these months reached a sublimity which appeared to me almost ridiculous. At last a meeting of the Executive Committee of the Congress of American Physicians and Surgeons was held in Philadelphia, April 26th, 1891, and shortly after we received an unofficial intimation that we would not be admitted to the Congress.

I have endeavored to give you a plain statement of what appears to me one of the most extraordinary transactions known to medical history. The question naturally arises, why were we accorded such treatment? I am unable to answer. A rumor has reached me to the effect that the chief argument used against us was that our association really represented nothing more than a duplication of the work of other sections, and for that reason should not be admitted. I have nothing to do with such an argument, and care not whether it be considered good, bad, or indifferent. I will remove the necessity of using it by saying that we concede that the Congress had a perfect right to refuse to admit us if its members thought fit. We insist, however, that it had no right to subject us to humiliation such as this; it had no right to place us on probation for an extended period,

and then absolutely ignore the essence of the implied contract. The resolution of the Congress required certain things from us. We have fulfilled those requirements in every particular. We actually came into existence in the interests of the Congress; we have supported it loyally in every particular; we have shown no particle of antagonism to any of its sections; we have, as a matter of fact, patiently submitted to much inconvenience through the delay in sending its singular ultimatum. Is it possible that the majority of the members of that great organization will feel proud of the actions of their executive? I have considered the matter in all its aspects, and I cannot conceive how the members of the Congress can reasonably defend the methods of their committee.

Well, gentlemen, what are we now to do? It gives me unbounded pleasure to assure you that our Executive Council holds no divided opinions. The necessities of the case compel us to bid the Congress a sad farewell, but in doing so we indulge in the hope that we may be permitted to continue our existence, which we have found exceedingly pleasant as well as extremely profitable. Our association is alive to day; it is going to live, it is going to thrive, it is going to do a great work on this vast continent. I say this in no boasting spirit. I desire to assume no air of bravado. I feel fully impressed with the responsibility I assume when I say that we have a grand future before us. I, who have done so little for you, can express myself with greater freedom than could others who have borne so nobly the burden of organizing this magnificent society. I have witnessed the efforts of our founders with profound admiration; I have watched their zeal, their devotion, their untiring energy, with a feeling of wonder; I have viewed their boundless enthusiasm, their wondrous capacities for work, and their unselfish devotion to each other and our common cause, with perfect delight. In addition, it gives me great pleasure to refer to the dignified bearing of our councilors under somewhat trying circumstances. In our negotiations with the Congress, I know of no act on our part that will ever bring the blush of shame to any of our members. While referring to the actions of our office-bearers, I cannot refrain from referring to the loyal support



they have ever received from the ordinary Fellows of our association. It appears to me that our prospects were never brighter than they are to-day. The main object of our association, "the cultivation and promotion of knowledge in whatever relates to abdominal surgery, obstetrics, and gynecology," is ever kept in view by one and all; and the results in three short years, the evidence of which may be found in the three volumes of our Transactions, are such as will inspire us with confidence and fill us with hope in the future.

Let it be our duty, as well as our pleasure, to worthily continue the work which has been so auspiciously begun. Let envy, hatred, and all uncharitableness toward other societies be ever kept far from us. Let us forget the indignities which have been heaped upon us. Let our memories of the past pertaining to our own work ever remain as pleasant as they are to-day.

It gives me pleasure and satisfaction to call attention to the fact that, geographically speaking, this association is American in the broadest sense of the word. As our president of last year expressed it, "the association is not limited to the United States, but only by the boundaries of the Western Continent." I know of no other medical society in existence that is essentially continental in character, and I am glad to be able to assure you that this feature of the organization is highly appreciated by my countrymen in the goodly-sized Dominion north of this flourishing republic. It happens, by an unfortunate coincidence, that the meeting of the Canadian Medical Association is being held in Montreal concurrently with this. As we desired to treat that society with no discourtesy, we have had but little to say about this meeting in Canada. I am much gratified, however, that Dr. Ross and myself have been able to propose the names of some Canadians, and I am pleased that you have been good enough to accept them to membership without putting them on probation for two or three years.

I would like to make a few remarks on the subject of medical societies with a view to our position at the present juncture; and I do so with considerable diffidence, because my opinions may be distasteful to some of our Fellows, and to some warm friends outside. My remarks, however, will simply represent my own

individual views, and you may take them for what they are worth.

We are now perfectly free and untrammelled in every respect, and it may be well to consider what position we should assume in regard to other societies. Probably all will admit the possibilities of great dangers arising out of specialties. This subject has caused considerable discussion in all parts of the world during recent years. It is not my purpose to discuss the general aspects of the subject now; but in reference to societies, I would regret very much to see a too-well-marked line of demarcation between the specialists and the great mass of general practitioners of this country. What should be the greatest medical organizations in the United States and Canada respectively? In my opinion, the American Medical Association and the Canadian Medical Association. I have long had a very decided opinion that the greatest medical organization that has ever existed is the British Medical Association. The great mass of British practitioners of all sorts and conditions belong to it, and take pride in their membership. It contains no less than thirteen thousand eight hundred members. At the recent meeting at Bournemouth, a large portion of the brightest lights of Great Britain were present, and devoted their best energies toward making the meeting a success. This is the rule from year to year, and the great society is growing with wondrous rapidity. In this country it seems to me that too many of the leaders of the profession are conspicuous by their absence from the meetings of the American Medical Association. Many of the men referred to are the peers of the best men that can be found in any nation or any clime. Is it not unfortunate that so many of them miss what should be the best opportunity of meeting the rank and file of the profession in their own country? Is there no remedy for this unfortunate condition of things? It would seem to me that all should unite to make the national society the greatest in the land, and that all local and special societies should cordially work together for that purpose. I am pleased to note that many of our Fellows are enthusiastic workers in the American Medical Association, and I hope that they and all others will give at least as loyal a support in the future as they have in the past.

I was particularly struck recently with an example of the great good which can be accomplished by a meeting of specialists with general practitioners. I had the privilege of attending a very excellent meeting of the Medical Society of the State of New York in February last, when I heard an admirable discussion on the important subject of appendicitis, valuable alike to those who talked and to those who listened. Operations, when required for this condition, may be relegated to those who pay special attention to abdominal surgery, but the best methods of diagnosis should be known to all. The various phases of the question were so thoroughly and so ably discussed that the large assemblage was duly impressed with the importance and correctness of the views expressed. It is impossible to put any proper estimate on the good that may be accomplished by such meetings and discussions. The benefits are not confined to one side, but extend alike to specialists and general practitioners. In speaking of specialists, I may say I refer to those who pay special attention to such subjects as obstetrics and gynecology, whether their work be confined to these departments or not. For such the benefits to be derived by personal contact with intelligent, industrious, and observing general practitioners are incalculable. Such association will do much to keep the specialists from becoming narrow, priggish, dogmatic, and—may I say it?—dangerous.

We meet to-day in this great city as a society of physicians and surgeons who may be called specialists in the sense I have indicated. Of course, modern gynecology is understood to include abdominal surgery, which has made such wondrous advances in recent years. I think our work on this continent in these different departments will compare favorably with that done in older countries. A few short years ago the results of our efforts in abdominal surgery were somewhat discouraging. Our mortality rates compared very unfavorably with those of Great Britain and the continent. Some of the reasons given for this condition of things were positively ludicrous. The history of the evolution of this branch of surgery is so recent as to be almost the talk of yesterday, and I need not dilate upon it to-day. What seem more simple now than our methods of cleanliness in surgery

—and yet how hard they were to learn! I think, however, I am justified in saying that we have conquered our former serious difficulties, and our high mortalities of from 15 to 50 per cent. in our various kinds of abdominal sections have vanished, I hope, forever.

Our advances in obstetrics, although not so brilliant as those to which I have just alluded, have been quite as valuable, and are exactly in the same line. And yet we have found it difficult to learn, and to teach, that obstetricians should be as scrupulously careful in their methods as abdominal surgeons. I may say, in addition, that this lesson has not yet been learned by a large proportion of our physicians, and we must go on preaching and teaching cleanliness until it is recognized practically as a criminal offence to neglect to clean the hands, the instruments, and the surroundings of our patients in labor. We are proud of the fact that we have almost driven septicemia from our properly conducted maternity hospitals. Let us drive it away from this continent altogether.

In making any allusions to the past year, I am very thankful that I have no obituary references to make respecting our Fellows. Some, however, have been sorely afflicted by family bereavement, and when our brothers suffer we feel in a sense a certain amount of the weight falling on our own shoulders. Of such matters I will make no special mention, excepting in one instance. I desire to give expression to the profound sorrow we felt in consequence of the almost appalling calamity which has befallen our secretary in the loss of his only—his well-loved—son, who was alike an ornament to our profession, a worthy citizen of this republic, a loving son, husband, and father, and a most charming and estimable man. What William Warren Potter has done for this association cannot be told, but has, I am glad to say, been very highly appreciated by all. We know that since the inception of the organization he has given us the benefit of some of the best efforts of his life. We all respect and admire him for what he has done for us; we love him for his rare personal qualities and goodness of heart; we extend to him in his hour of tribulation our warmest sympathies, and our best wishes for him and his for all time to come.

I cannot refrain from making reference to the

great loss this country has sustained in the death of Dr. Fordyce Barker. He was not simply a distinguished obstetrician of this continent—he was known abroad almost as well as he was at home—he was one whom the whole medical world admired, respected, and delighted to honor. It was my pleasure and privilege to listen to some of his lectures in my student days, and since that period to read everything from his pen that I could find; and I feel that I am indebted to him for some of the most valuable lessons I have ever learned in the science and art of obstetrics. I desire, therefore, to offer my humble tribute, in addition to the almost countless others from all parts of the globe, to the memory of one of the grandest and noblest physicians the world has ever seen.

I must confess that your choice of a president last year at Philadelphia was more creditable to your good nature than your better judgment. I feel constrained, however, to forgive you for that mistake, and to thank you for myself and for my country. I cannot express the satisfaction it would afford me if any words of mine should encourage you to work with still more vigor and enthusiasm in the future than you have in the past. I feel, however, that that is unnecessary. I think that our association is not composed of the material that is likely to weaken in the hour of trial. I trust that the troubles that have beset us will be the means of forming the strongest link in the firm chain that binds us together as brothers and co-workers in a good and great cause.

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## Selections.

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### PUERPERAL ECLAMPSIA.

In a discussion on this subject at the meeting of the British Medical Association, Dr. Byers, of Belfast, expressed the following opinions about treatment: "Let us suppose we are suddenly called to a patient six or seven months pregnant, with convulsions, and in whom labor has not set in, what is our course of action? After taking precautions that the patient does not injure her tongue, by passing a handkerchief across the mouth, and seeing that she is surrounded with plenty of pillows, I think chloroform is our sheet anchor. As quickly as possible

she is to be brought under its influence, and at the same time thirty grains of chloral are to be given by enema. When the latter begins to act the chloroform may be stopped, and the chloral repeated after each attack. In case the fits, notwithstanding this treatment, recur at shorter intervals and become more severe, then I am entirely of the opinion that labor should be induced. Under chloroform the bladder is emptied, the membranes are ruptured, and the os dilated with Barnes's bags, or the fingers. This having been done, delivery is to be completed by turning or with forceps. Other remedies, such as pilocarpin, veratrum viride, amyl nitrite, nitro-glycerine, venesection, and morphine, have at different times been advocated by various obstetricians, but in my experience the best results are obtained by the chloroform and chloral treatment, followed, if necessary, by induction of labor. I am glad to find that in the most recently published text-book of midwifery the author, Winkel,\* says: 'Whenever the patient becomes restless, and the approach of an attack is thereby recognised, or as soon as the first contractions commence, chloroform is to be given and the inhalation continued until the attack disappears. The chloroform acts, therefore, as a preliminary calmative until the chloral can be given (1 to 2 g.=15 to 30 grs.), which is at once to be administered after each attack *per enema*. This is repeated after each attack, and we are not afraid of giving as much as 12 g. (=3 drachms) of the drug per day, and even more.' His results are exceptionally good, for out of ninety-two patients he has only lost seven. In certain mild cases, if there is a wide interval between the fits, and if in this interval there is no coma, we may purge with croton oil, elaterium, or jalap, and give chloral with or without bromide of potassium; but, even in these cases, we must watch the patient closely and be ready to induce labor if necessary. Next to chloral, morphine, given subcutaneously, seems most useful.

*"Convulsions during labor.*—In these cases our plan of treatment is to control the convulsions with chloroform and chloral, while we use every effort to hasten the delivery.

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\*A *Text-book of Obstetrics*, by Dr. F. Winkel, Professor of Gynecology in the University of Munich. Translated under the supervision of Dr. J. Clifton Edgar. Pentland. 1890.



"*Convulsions after delivery.*—In these cases the prognosis is much more favorable, and in addition to treating the convulsions with anæsthetics such as chloral and bromide, we endeavor to keep the skin and bowels acting as much as possible.

"*Prophylaxis.*—Let me add a word on the prophylactic treatment of eclampsia. In many cases of eclampsia the attack comes on quite suddenly, and we are summoned first when the patient is actually in a convulsion; but in others certain symptoms put us on our guard, and from their presence we are led to adopt a prophylactic treatment. Supposing that during pregnancy we find that there is much albumen, or that there are casts, or that the amount of solids passed is becoming less, we should see that the patient is warmly clothed, and that she avoids any exposure to cold. She should be kept on a milk diet, and nitrogenous food is to be avoided. The bowels should be made to act regularly and freely, either with pulv. jalapæ co., or cream of tartar, and in these cases there is no better remedy than the warm bath, which is a plan of treatment strongly recommended and used by German obstetricians. Winckel directs that every pregnant woman who has any notable albuminuria is to be given a hot bath at 100° every day, and after this she is to be wrapped in a blanket so as to cause diaphoresis, which usually continues two hours.

"The method of employing the hot-water bath in the prophylactic treatment of puerperal convulsions is carried out in Vienna as follows. I quote from a paper by Dr. Earle read before the Gynecological Society of Chicago, March 15th, 1889: 'The patient is placed in a bath-tub filled with water at a temperature slightly above 99°F. The tub is then covered with a heavy blanket, leaving the face free, and the temperature of the water is gradually elevated to 110° or 112°. She remains in the bath thirty minutes. A towel wrung out of ice water and placed upon the head relieves any distressing cephalic sensations. While in the bath the patient drinks large quantities of water. Upon emerging from the bath she is covered with a warm sheet, and enveloped in an upper and lower layer of thick blankets, so that only the face is exposed. Within a very few minutes free perspiration is observed. The sweating is

continued for two or three hours. According to the gravity of the case, the hot-water bath may be repeated once daily for an indefinite period. The relief of all threatening symptoms under this simple plan of treatment alone is surprising. Sometimes the hot-water bath acts as an efficient excitant of the uterine contractions and premature labor is induced.'

"If, notwithstanding all our treatment, the amount of urine is large and steadily increasing, and if any cerebral symptoms appear, we at once administer chloral and bromide, and keep a most careful watch over the patient, so as to be ready if convulsions set in and become so severe as to induce labor."—*Brit. Med. Jour.*

THE ROLLER BANDAGE FOR THE PAINS OF TABES DORSALIS.—This note is for the purpose of drawing attention to the results of a simple method for the relief of pain during the course of spinal disease, and especially tabes dorsalis. Warmth, in the form of the warm bath, has long been recognized as of considerable utility in the treatment of this symptom. The writer has frequently observed the relief afforded by the firm application of a roller bandage in the spasmodic and painful conditions so common in the extremities following traumatism. It occurred to him that the application of such a bandage (flannel or hose) to the part the seat of pain in locomotor ataxia might be of some service in mitigating the suffering. He found that the firm application of a bandage (flannel) from the toes to the upper third of the thigh was attended with great relief. During the past six months this method of treatment has been employed with most encouraging results. For the girdle pains, a bandage, similar to the abdominal binder, firmly applied at the level of the abnormal sensations, afforded almost instant relief. The cases under observation had been treated with galvanism, with absolute rest, and the usual therapeutic measures, the majority of which had failed. The usefulness of this method depends principally upon the pressure and warmth that the bandage affords, combined with rest. It is worthy of further trial, if only as a substitute for morphia. In one case the removal of the chest-binder was in several hours followed by a return of the girdle sensations. Two other patients invariably suffer a return of pain in the lower ex-

trernity on the removal of the bandage. In suitable cases the elastic stocking may, with advantage, be substituted for the bandage, as it does not interfere with locomotion. The application of a roller bandage about the seat of pain was equally useful in several instances in which the area of pain was localized. The method of treatment indicated will, I trust, commend itself for its simplicity, with the advantage of acting as a substitute for drugs.—*Joseph Leidy, M.D., in Medical News.*

THE PURE AND THE IMPURE.—Ricord, the syphilographer, an American by birth, seems to have led such a species of double existence as to have presented differing aspects to different persons. Dr. Oliver Wendell Holmes says that he was "the Voltaire of pelvic literature—a sceptic as to the morality of the race in general, who would have submitted Diana to treatment with his specifics and ordered a dose of blue pills for the vestal virgins." Mr. Gayerre, of New Orleans, wrote, in 1887, some reminiscences in which he said: "Ricord, at the time, was a bachelor, and I believe he has never married. What was my astonishment, when I entered a very large bedroom, of which the walls, from the high ceilings to the floor, were covered with none but magnificent oil paintings, representing sacred subjects. At the head of the bed was a sculptured oak priedieu, on which there was a superbly illustrated copy of the Gospels that was lying open. There was a red velvet cushion to kneel on at the foot of the priedieu, surmounted by a beautifully carved ivory Christ on a gilded cross. After a little while I was led to the presence of the medical philosopher, who habitually seemed to delight in being a cynical unbeliever. Guessing at what had passed in my mind, he said, with a laugh not unmixed, I thought, with some embarrassment of manner, 'You are surprised, are you not?' Certainly," I replied; "who would not be? Faith! my first impression was that I had been introduced by mistake into the bed-chamber of the Archbishop of Paris." "Well! well! my friend," he said, in a half jocose and half serious tone, "I hear and see so many unclean things during the day that, on retiring at night, I like, before going to sleep, to refresh my eyes by looking round on holy objects."—*Medical Standard.*

GLYCERIN SUPPOSITORIES.—A short time ago glycerin came rapidly into repute as a laxative, and an enormous number of syringes were sold for injecting it into the rectum. Its indiscriminate use, often in very unsuitable cases, has led to its equally rapid decline in popular favor. Glycerin is a very deliquescent substance, which rapidly absorbs moisture from and stimulates the mucous membrane; it thus quickly leads to reflex peristaltic action, with evacuation of the rectum, and perhaps large bowel. Its very stimulating effect often leads to uncomfortable sensations in the rectum, especially if there be any hyperæmia of the parts, and hence its use should be strictly limited to those cases where there is a habitually sluggish action of the lower bowel. When there is any inflammatory action its use is strongly contra-indicated. Any dilution with water lessens its hygroscopic character, and so diminishes its activity, hence it should be used as nearly pure as possible. On this account the activity of the glycerin is much diminished when administered in the form of suppositories, as commonly prepared with gelatin, because in their manufacture a certain proportion of water is necessary for its solvent action on the gelatin.—*Liverpool Medico-chirurgical Journal.*

THE Officier de Santé is likely to be abolished by law in France. This is the lower medical qualification in that country. In a land where all who study medicine can and do qualify themselves properly for a degree, such a title is unnecessary. France has perhaps outgrown it. In this country it would perhaps be a wise thing if those who studied medicine for three years only, taking but two didactic and no regular clinical courses, held a different degree from those who had studied four or five years, provided, of course, that those of lower grade had opportunities later to qualify in the higher.—*Medical Record.*

INDUCTION OF LABOR.—Treub (*Arch. d'Obstet. et de Gyn.*) comments upon the disadvantages of the recognized methods of inducing labor and recommends the following: A section of soft rubber tubing is tied in the neck of a rubber condom. This apparatus is introduced into the uterus by the aid of a celluloid canula, into which it is first inserted. Once in place the

bag is injected with borated water by means of a syringe attached to the proximal end of the rubber tube, the carrying canula being at the same time partially withdrawn. When the bag is filled, the tubing is ligated and the celluloid canula removed. A pad of iodoform gauze is then placed against the cervix. Delivery follows, on an average, in thirty-one hours. For the induction of labor in primiparæ, the author uses the cervical tampon of iodoform gauze. This measure, however, has succeeded in only two cases out of five.—*Brooklyn Med. Jour.*

HYDRASTIS CANADENSIS FOR NIGHT SWEATS.—Apropos of the treatment of night sweats, Kruse (*Berliner klinische Wochenschrift*, No. 22, 1891) reports that while using hydrastis canadensis for the hæmoptysis of phthisis, in which he has found it very efficient, he has been surprised to find a most positive effect upon the night sweats, which, during the occasional administration of the drug, have been completely suspended. In one case, where the usual remedies, such as atropine, agaricine, sulphonal, and secale cornutum, at first efficient, subsequently lost much of their effect, the intercurrent use of hydrastis for slight hemorrhage completely checked the tendency to sweating. Thirty drops of the fluid extract given at evening were entirely successful, and the result was maintained for three weeks after cessation of a short course of this treatment.—*Univ. Med. Mag.*

ON COLDNESS OF FEET PRODUCED BY TEA.—I advised a lady to drink more tea. "I cannot touch it," was her reply. "Why; what does it do to you?" "It makes my feet icy cold, and wet with cold perspiration." On further inquiry she assured me that she was quite certain of her facts and had often tested them. She thought that the perspiration was usually of the soles chiefly. Her hands were, she thought, also made cold, but not so definitely as her feet. I had long been familiar with the fact that tea made the feet cold, but did not know that cold perspiration attended it. It does not do so in all persons. The coldness is caused, I believe, by contraction of the arteries, for the feet at the same time shrink. Alcohol has usually a precisely opposite effect.—*Hutchinson's Archives of Surgery.*

A PLEA FOR CIRCUMCISION.—It is surely not needful to seek any recondite motive for the origin of the practice of circumcision. No one who has seen the superior cleanliness of a Hebrew penis can have avoided a very strong impression in favor of the removal of the foreskin. It constitutes a harbor for filth, and is a constant source of irritation. It conduces to masturbation and adds to the difficulties of sexual continence. It increases the risk of syphilis in early life and of cancer in the aged. I have never seen cancer of the penis in a Jew, and chancres are rare.—*Hutchinson's Archives of Surgery.*

WHAT BECOMES OF DOCTORS AFTER GRADUATION.—A correspondent of the *Medical Age* says: "I have endeavored to keep track of one hundred of my medical friends after graduation, especially of what they did during the first five years, and find nearly 75 per cent. had to resort to other employment to make a living. Twenty-three received a salary either in addition to practice or separate therefrom. Fifteen were proprietors of drug stores. Three were insurance agents. Four loaned money. One sold real estate. Three were connected with medical journals. One was an agent for drugs; one for books. One preached. One was in the patent medicine business. Two were farmers. One a manufacturer. Two gave massage treatment. One sawed wood, and subsequently suicided. Twelve gave up in disgust, and one never tried practice at all. Twenty-nine graduates only in one hundred exclusively devoted themselves to medicine, and of these eleven associated themselves with other practitioners, and in many cases fell heir to their practice."—*N. Carolina Med. Jour.*

JAMIESON recommends the daily washing of scarlatina patients with Eichoff's 3 per cent. resorcin-salicylic superfatted soap. After the washing they are anointed with olive or almond oil. The nurse who uses the soap should protect her hands with rubber gloves, or by using a large sponge. In this way desquamation is hastened. The patient is able to associate with the public at least a fortnight sooner than under the old plan of inunctions of carbolized oil during the period of desquamation alone.



# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

*When a change of address occurs please promptly notify the Publishers, THE J. E. BRYANT COMPANY (Limited), 58 Bay Street.*

TORONTO, NOVEMBER 2, 1891.

## THE SPREAD OF DIPHTHERIA.

Diphtheria has become quite a serious scourge in many parts of Canada. Much has been said about its prevalence in Toronto, and many exaggerated statements with reference to it have been made. However, with so serious a disease in our midst, it is exceedingly important that we should adopt stringent measures to prevent its spread. Diphtheria is essentially a preventable disease, and at the same time a horribly contagious one.

We have had some sad lessons on the subject in Toronto. We have had instances where groups of children have been engaging in their innocent sports, with an infected and infecting throat in their midst, scattering virulent poison in all directions. In many such cases fond and careful mothers have been looking on, all unconscious of the deadly perils surrounding their little ones, until sore throats developed in a few days, resulting in malignant diphtheria, which rapidly destroyed its little victims.

We have no doubt that in a large proportion of cases this disease is contracted in our schools. This is perhaps more common with diphtheria than any other contagious disease, and is largely due to the difficulty as to diagnosis in cases of comparatively mild sore throat. In the ordinary lay vernacular, we have "ulcerated sore throat," which is considered a somewhat trifling disease. This probably corresponds with what is known to the profession as "follicular tonsillitis," which is, in a large number of cases, simply a non-specific inflammation of the tonsils, with a harmless follicular exudation.

Without entering into a discussion of questions which are not quite settled, we are inclined to agree with those who think that in such cases the exudation is sometimes diphtheritic in character, although this cannot be made out by the naked eye. Considering the subject clinically, there can be no doubt that certain cases of diphtheria have not been detected until the resulting paralysis has shown that the disease was constitutional, and not simply a local inflammation. Many such mild cases have proved the sources of serious infection. Some physicians have perhaps gone to one extreme and called all cases of follicular tonsillitis diphtheria, while others have been accustomed to make light of this affection.

It is about time we in Toronto derived some benefit from our sad experiences. We have pointed out the grave dangers connected with certain conditions of the throat which are doubtful in character. We believe the following rules should be adopted to guard against these very serious perils:

1. Isolate all patients affected with either follicular tonsillitis or diphtheria.
2. Report at once to the Medical Health Office.
3. Let the Medical Health Officer make, or have made, a proper examination of the case—microscopical and bacteriological if necessary.
4. Keep the patients isolated until all doubts are removed in non-diphtheritic inflammations.
5. Let the isolation be rather extended in the so-called naso-pharyngeal diphtheria, because the poison lurks long in certain nooks, especially the follicles of the tonsils.

We will not now discuss the methods of our Health Officer in Toronto in a general way, but we have very strong views on one point: if he has a well-founded suspicion that infected children are attending any of the public schools, he should close such schools at once (as he did recently), and in such action he should be supported by the profession and the public.

## PUERPERAL ECLAMPSIA.

A very interesting discussion on puerperal eclampsia took place at the recent meeting of the British Medical Association; but we are unable so say that much new light was thrown on

the subject, either as to pathology or treatment. It was generally agreed that the convulsions were either caused by, or, at least, associated with, some kind of renal impairment. Dr. Galabin, who opened the discussion, referred to the fact that Dr. Blanc, of Lyons, claims to have discovered a specific form of bacillus which is the cause of eclampsia. Cultures of this bacillus, when injected into the veins of pregnant rabbits, caused convulsions, dyspnea, and death. Dr. Blanc thinks this bacillus causes both the nephritis and convulsions. Dr. Galabin, in connection therewith, very properly says that even though microbes may form an essential part of the morbid processes, yet a great part of the causation may lie in the circumstances which made the tissues vulnerable to the microbes.

Dr. John W. Byers, of Belfast, called attention to the condition of the large glands in pregnancy, especially the liver and kidney. These organs exhibit a change of structure analogous to cloudy swelling. This brings forth an interesting theory with reference to the sickness and vomiting of pregnancy. These changes in kidney and liver may be designated as degenerations, or simply infiltrations; but some assert that they are parenchymatous degenerations, and when occurring in the liver cause the ordinary vomiting of pregnancy. When such degenerations become intensified it is said that we have yellow atrophy of the liver, which, in turn, causes the pernicious or uncontrollable vomiting of pregnancy. Santos, of Buda-Pesth, thinks that the "uterine nerves are, owing to the enlargement and contraction and retraction of the uterine, kept in a state of irritation, which reflexly acts on the renal and sympathetic nerves, causing albuminuria and eclampsia." Pajot believes that "the convulsions are reflex, culminating in a cerebro-spinal centre in close proximity to the albuminuria centre."

We publish in this issue the remarks of Dr. Byers on treatment, which represent very well the views commonly accepted in Great Britain. He considers chloroform the most important remedy at our disposal, and calls it "our sheet anchor." Next to chloroform comes chloral, according to British opinions. Morphine appears to hold only a subordinate place. On this continent much more importance is attached to morphine as a remedy, which has, in our

opinion, a great influence in controlling the hyper-excitability of the nerve centres. Many of the speakers referred to the dangers connected with the use of pilocarpin. We have learned to appreciate these dangers to such an extent that we use it in this country much less than we did a few years ago. Dr. Galabin pointed out that the dangers of this drug are greatest before delivery, or during deep coma, because the patients are sometimes choked by it. Venesection has gone out of fashion of late, but we quite agree with many of the speakers who considered it an invaluable remedy in a certain class of cases. The hot-water bath is undoubtedly very useful as a prophylactic, and we desire to call attention to the Vienna method of employing it as described by Dr. Byers.

#### MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

We are indebted to Dr. J. Stewart, one of the editors of the *Montreal Medical Journal*, for our report of the twenty-fourth annual meeting of the Canadian Medical Association. We have used the proof sheets of the *Montreal Journal*, kindly forwarded us from the office of the *Gazette* Printing Company. It will be seen by the report of the treasurer, Dr. W. H. B. Aikins, of Toronto, that this was the largest meeting in the history of the association, and the general opinion of those present seems to be that it was the most successful in all respects.

#### THE VALUE OF THE STUDY OF MEDICINE.

We publish in this issue a portion of the able address delivered by Dr. R. M. Bucke, the Superintendent of the Asylum for Insane in London, at McGill Medical College, at the opening of the winter session. We regret that want of space compelled us to cut away any portions, but the mutilation does not affect the main line of the lecturer's argument in reference to the great value and study of the science of medicine.

COHN says a single germ could, under good conditions, multiply in three days to 4,772 billions and make a mass weighing 7,500 tons

## Meeting of Medical Societies.

### CANADIAN MEDICAL ASSOCIATION.

Twenty-fourth annual meeting, held in Montreal, September 16, 17, and 18, 1891. The Past President, Dr. Jas. Ross, Toronto, took the chair at 10 a.m., and called the meeting to order.

Dr. Ross introduced Dr. Hingston, chairman of the Committee of Arrangements, who welcomed the visitors and drew attention to the new feature of visiting the city hospitals.

The minutes of the last meeting having been read and confirmed, the President, Dr. Roddick, took the chair and formally opened the meeting.

Past Presidents Drs. Hingston and Geo. Ross, and the delegates from the New Brunswick Medical Society, Dr. J. Christie and Dr. Daniels of St. John, were invited to seats upon the platform.

Letters of regret were read by the secretary from Drs. Jos. Workman, Osler, Spencer (Brandon, Man.), Higginson (Rat Portage), G. Bantock (London, Eng.), and Muir (Truro).

Mr. Thomas Bryant, of London, Eng., was introduced, and invited to take a seat on the platform.

The Nominating Committee was then appointed: Drs. Praegar, Nanaimo; Chown, Winnipeg; Malloch, Hamilton; Taylor, Goderich; McKeough, Chatham; Thorburn, Toronto; Powell and Wright, Ottawa; Lachapelle, Armstrong, and J. Stewart, Montreal; and Christie, St. John.

The meeting then adjourned to the Hotel Dieu, where, after partaking of lunch, the members were conducted through the buildings of the hospital, and there several cases of interest were demonstrated by members of the staff.

### AFTERNOON SESSION.

The meeting being called to order by the President,

Dr. Bray, Chatham, then read the address in Medicine, entitled, "Malaria, its relation to and influence over other diseases." Discussed by Drs. Christie and Jas. Ross.

Dr. Barbour, Edinburgh, Scotland, was then introduced and invited to a seat on the platform.

Dr. W. Gardner read his paper, "Pregnancy with Ovarian Tumor: three Ovariectomies." Discussed by Drs. Barbour, Alloway, L. Smith, Sloan, and Rutan.

Dr. A. L. Smith said that on account of the frequent association of pregnancy and undiagnosed ovarian cysts and pus tubes, he would particularly caution all accoucheurs to handle the uterus gently after labor and during expulsion of the placenta, for fear of rupturing these diseased structures and thus setting up a septic peritonitis. The rough handling (so-called "expression") was generally quite unnecessary, as the placenta will usually come away of itself if given time.

Dr. V. P. Gibney, New York, then read his paper, "Early Diagnosis, the most important factor in the Treatment of Hip-joint Disease."

### DISCUSSION.

Dr. A. M. Phelps, New York: We can congratulate ourselves on having heard such an able paper as Dr. Gibney has given us. In the main I agree with him. I do not, however, use steel braces, be-

cause they are difficult to make and fit, and then they are, in my opinion, no better than the plaster of Paris or wood corset. An early diagnosis is all-important. In young children complaining of abdominal and thoracic pain, accompanied by rigidity of the spinal column and pain on flexion, Pott's disease should always be suspected. Movements of the body while the child is sitting will bring out rigidity of the spine if Pott's disease is present; the child on its back will also hold the spine rigid when the head is raised by the hand. No brace can be adjusted to a child under three years of age which will support the spine, and such cases should be treated by extension in a Sayre's wire cuirass or a plaster of Paris bed.

Dr. Shepherd emphasized the necessity of careful examination of all these cases. He drew attention to the difficulty of an early diagnosis; and yet this is the very thing which the general practitioner has to grapple with, so that it is small wonder if he sometimes overlooks it. The gait of the patient often tells us what is wrong; and a few days' rest and extension may clear up a doubtful case.

Dr. Bell favored plaster of Paris supports in preference to steel braces.

The President agreed with the previous speakers as to the necessity of careful examination, and for this he considered Sayre's method the best—that is, to place the child face downwards across the knees, then widening the knees and pressing down on the child's back, when any tender points will be brought out. He favored light braces in young patients and in the early stages of the disease, because the weight of the plaster of Paris jacket was often too much for children.

Dr. Foucher, Montreal, read his paper, "A Contribution to the Etiology of Dacryocystitis."

Dr. Buller drew attention to the fact that while constitutional affections play an important part in the etiology of this affection (dacryocystitis), still the main factor in most cases was of a purely local character. Occasionally, but not often, simple conjunctivitis was a cause of it. Another cause was the toxic effects of such irritant drugs as jequirity, applied for granular ophthalmia, although this disease is not in itself a cause. One curious example of this disease the speaker had often seen, but had never heard satisfactorily explained, and that was its appearance in neonati. It was usually confined to one eye, and tended to spontaneous cure, though the case was apt to be very tedious.

### EVENING SESSION.

The chair was taken by Dr. Jas. Ross (Toronto) at 8.30.

The President then delivered his interesting address. Discussion upon the address was postponed until Thursday morning.

Moved by Dr. Bray, seconded by Dr. J. Christie, that the President be tendered a vote of thanks for his able address. Carried.

The Secretary then read an invitation from Sir William Dawson to the members of the Association to visit the Redpath Museum.

An invitation from the Secretary of the Board of Governors of the Royal Victoria Hospital was read, in which the members were invited to inspect the buildings of this institution.

Dr. Phelps, New York, then read his paper on "The Mechanical Treatment of Hip-joint Disease."



## DISCUSSION.

Mr. Thos. Bryant said that he quite agreed with the principles laid down by the reader of the paper. He did not believe that immobility of a joint would produce ankylosis, because among the Chinese, where frequently a limb would be tied up from childhood, the joints in such cases are found perfect. The muscles become wasted and the limb consequently useless. When the seat of the trouble is in the bone, which has become chronically inflamed, treatment will cure it; but when it is situated in the synovial membrane, the disease is usually tubercular. For this information we have to thank our friend Dr. Koch. In this latter case the disease goes on steadily in spite of treatment. Thus we can explain why in one case the treatment succeeds and fails in another. This is also the reason why it is difficult to divide the disease into stages, or to prophesy results with any degree of accuracy. When a man says he has a case in the first or second stage of the disease, I want to know what he means, which form of the disease is he dealing with. However, in the later stages, when the joint becomes disorganized, we can tell pretty well what we will find. The bone is then not capable of recovery. The part is dead and must be exfoliated and removed. We may then either excise a portion of the bone or merely remove the sequestrum, the operation to be decided by the case. We should not operate too early, because even after pus has formed recovery may take place if the process can be stopped. In the early stages of the disease *immobility* is the great thing. Years ago Hilton laid it down. It is the great principle in the treatment of all joint diseases. In this joint there must be immobility, and there must be extension. Personally, he likes to employ elastic extension. The splint shown is a very useful one, but has some imperfections, as, for instance, the child would have to be frequently removed from it owing to soiling. Complete recovery takes a very long time. A splint should be worn for months after all symptoms disappear, in fact would almost say for years. In regard to the muscles, the trouble lies mainly with the strong adductors, and the continued action of these produce constriction of the pelvis and shortening of the limb. As long as there is any tendency to adduction a splint should be applied, at any rate at night.

Dr. Gibney remarked that all were waiting anxiously for the publishing of the results of Dr. Phelps' cases. Personally, he likes the long hip-splint, as he gets better results with it. When there is much deformity, and it will not readily yield to extension, he is in the habit of correcting it by manual force under an anæsthetic. He does this only in what is known as the first and second stages. The treatment takes a long time, and, to judge of results, takes years.

Dr. Hingston stated that his experience had been that both the accession and cure of the disease had been quicker when the softer parts of the joint were affected. When the periosteum and bone were affected the process was much slower. Extension can be gained more effectually by means of a weight and pulley than by splints. The great advantage of the weight and pulley is that you know just what force is applied, and you can judge how much to apply within the limits of safety and efficacy, while in splints the amount of extension varies. He

agrees with Dr. Phelps about spasm of the muscles taking place about the inflamed joint and causing much trouble by keeping up the inflammation. This, however, was never a cause of the inflammation. Had never met with a case in which the glutei were affected. It was almost always the tensor femoris and the adductors. In ninety-nine per cent. of the cases we find the limb adducted and flexed. When pus has formed, in his experience it does not resolve, but will eventually show itself externally.

Dr. Sullivan has found that the great difficulty is to maintain rest. It is almost impossible to convince the friends of the patient that it is necessary. It is hard to decide which splint to use, as there are so many and they are expensive. On this account the simpler ones are advantageous.

Dr. Fenwick rose amid loud applause. In his opinion it matters little what form of splint we use, so long as we put the part at rest. This is the great principle to be aimed at. He prefers the weight and pulley. The splint shown is like breeches formerly used with such good success.

Dr. Christie remarked that in the country parts young men had great difficulty in getting appliances. He advises all to strive to diagnose these cases early and then give the joint absolute rest. If this is done a large proportion will recover. He never could see the *rationale* of Dr. Sayre's splint. In his hands extension had not given very good results, probably because the cases were not in a suitable stage. He would repeat that the great thing is rest. Patients will not continue treatment long enough. If you put the part thoroughly at rest, you will not require extension. He uses plaster of Paris or starch for this purpose, and envelops one half of the body from axilla to foot.

The President briefly stated that he preferred to use the weight and pulley, and, when acute symptoms had subsided, to apply a Thomas's splint and allow the patient to go about. The great advantage of this form of splint is that it can be made by any blacksmith.

In reply, Dr. Phelps said that, according to the title, his paper only referred to the mechanical treatment of hip-joint disease. The treatment of ankylosis is by no means settled in this country. We do not by any means get abscesses in all cases, as we should do were they all tubercular. He would use this splint in all stages of the disease. We do not use elastic extension now, as we think it is better to last the foot to the splint. The splint is only to be used after the acute symptoms subside, and should be continued until no deformity or limp is apparent. As long as the patient is kept in bed the weight and pulley are all right, but we wish to get them out of bed as soon as possible. The glutei muscles produce adduction in the first stage. The second stage is merely an exaggeration of the first. In third stage we get adduction. Frequently when pus is removed from a joint by aspiration it does not return. Regarding the expense, the splint shown costs about \$2.50. He agreed with what the President had said regarding Thomas's splint, because next to his own he preferred it to all others. In spite of every care, however, abscesses would form in some cases.

THURSDAY MORNING (17TH).

The President in the chair.

Minutes of the last meeting were read and confirmed.

Dr. Mullins' notice of motion, given at the last meeting, was read, but, owing to Dr. Mullins' absence, it was moved by Dr. Bray, seconded by Dr. Taylor, that this motion be kept over pending Dr. Mullins being present later on.

The President's address was then discussed by Drs. Bray, Moore, Hon. Dr. Sullivan, Harrison, Sloan, Sir James Grant, Mr. Thos. Bryant, and Dr. Brosseau.

Dr. Sloan gave the following notice of motion: That the meetings of the Canadian Medical Association be held triennially.

The meeting then adjourned to the Montreal General Hospital, where the members of the Association and visitors were shown cases of varied interest. After partaking of lunch, an adjournment to the Royal Victoria Hospital was made, where the members and visitors were kindly shown through the buildings.

#### AFTERNOON SESSION.

The President in the chair.

The Nominating Committee, through the Convener, Dr. Praeger, reported as follows:—

That Ottawa be the next place of meeting.

*President:* Dr. Bray, Chatham.

#### *Vice-Presidents:*

|                  |     |                                 |
|------------------|-----|---------------------------------|
| British Columbia | -   | Dr. Praeger, Nanaimo.           |
| Manitoba         | - - | Dr. Jones, Winnipeg.            |
| N.W. Territories | -   | Dr. Lafferty, Calgary.          |
| Ontario          | - - | Dr. Prevost, Ottawa.            |
| Quebec           | -   | Dr. L. E. Desjardins, Montreal. |
| New Brunswick    | -   | Dr. J. Christie, St. John.      |
| Nova Scotia      | -   | Hon. Dr. Farrell, Halifax.      |
| P. E. Island     | -   | Dr. McLeod, Charlottetown.      |

#### *Local Secretaries:*

|                   |                                |
|-------------------|--------------------------------|
| British Columbia  | Dr. Fagan, New Westminster.    |
| N. W. Territories | Dr. Kennedy, Fort McLeod.      |
| Manitoba          | - - Dr. Riddell, Crystal City. |
| Ontario           | - - Dr. McKeough, Chatham.     |
| Quebec            | - - Dr. Cotton, Cowansville.   |
| New Brunswick     | - - Dr. Daniel, St. John.      |
| Nova Scotia       | - - Dr. Morrow, Halifax.       |
| P. E. Island      | - Dr. Johnston, Charlottetown. |

*General Secretary:* Dr. H. S. Birkett, Montreal.

*Assistant Secretary:* Dr. J. M. Elder, Montreal.

*Treasurer:* Dr. W. H. B. Aikins, Toronto.

Moved by Dr. Proudfoot, seconded by Dr. Powell, that the report of the Nominating Committee be accepted and adopted. Carried.

The address in Surgery was then read by Dr. Praeger, Nanaimo.

#### DISCUSSION.

Mr. Bryant: The reader of this paper has not gone into the question of the pathological condition of the spinal cord in these injuries. If it is irreparably damaged, no form of operation could be recommended. In one sense, and one only, is there an analogy between the brain and spinal marrow, viz., that both float in fluids, and therefore any severe concussion of these may lead to loss of function (paralysis) of the latent organs. Thus we may get very grave symptoms without any trace

of fracture or displacement, and in these cases we cannot interfere. But in cases of spinal paralysis accompanied by bony deformity, traumatic or otherwise, what are we to do? In these days of antiseptic surgery the answer is plain: we must reduce the deformity if at all possible. In all such cases we should resort to the judicious use of extension and pressure to reduce the deformity. I especially insist on *pressure* over the bony prominence accompanying extension as greatly favoring reduction. Having accomplished this, our next object is to secure immobility, and for this I know of nothing better than a good-fitting Sayre's jacket. This is the main feature of the treatment, viz., to secure perfect rest for these lacerated parts, and thus promote absorption of exudation and forestall the abscesses which are so liable to occur. As regards the so-called trephining, or elevation of the spinous processes, we are still in an expectant state, and cannot lay down any rules. The best guide for local operation is the presence of localized pain; for if the cord is irreparably injured we have cessation of function and consequently no pain; contra, if there is pain, we may hope for recovery by proper treatment. My own experience is limited, but I recollect one case in which I removed the lamina and the pain ceased; and though the paralysis persisted, the patient lived for years. Let us move with caution, then.

Sir James Grant drew attention to Charcot's researches on this subject, and gave an account of two very interesting cases he had met with lately, where a peripheral irritation amounting almost to neuralgia was a reflex of spinal disease. There were no physical lesions and no definite injury to the cord, but twelve years previously the patient had pain in the dorsal region. Examination showed one elevated spinous process in that region, pressure on which caused all the characteristic symptoms and aggravation of the peripheral neuralgic pains. Rest cured both these cases. The speaker insisted on a careful examination of the spine in all cases of general indefinite neuralgia.

A vote of thanks was tendered Dr. Praeger for his able address.

Dr. Fenwick then read his paper on "Calculus Pyelitis."

#### DISCUSSION.

Mr. Bryant, after referring to the pleasure with which he had listened to the paper, said that he would not discuss the symptoms of this disease; he would suppose the diagnosis made, and would pass at once to the treatment. It is well known that in all cases a stone in the kidney does not demand removal. How often it is that in the *post mortem* room we find them, when during life they have given rise to no symptoms. They should only be removed by operation when they interfere with the vital functions. The incision described by Dr. Fenwick is the usually accepted one. There is another class of cases in which the treatment to be adopted is not so clear; that is, suspected stone in the kidney. We get a more or less complete train of symptoms—pain, pus in the urine and sometimes blood, tumor in the loin. Is it or is it not a stone? We may set aside those rare cases of disease of the ureters. He drew attention to the importance of examination of the urine for pus in the diagnosis of these cases. Where the pus occurs unmixed with



mucus, it comes from the kidney. In all cases in which the pus comes from the bladder, it is more or less mixed with mucus. How are we to treat these cases? One man says at once—cut down. He may be right. Would advise a more conservative course. Experience of results in these cases differs very much. He has cut down on twenty or thirty kidneys, in some of which the stone was not diagnosed. He opens the abscess and irrigates the cavity thoroughly, mopping it out with a sponge held in a pair of forceps. The cavity heals in time. Has never had occasion to remove a kidney. Sometimes the recovery is so slow that we may regret not having removed the diseased organ, but with a little more care and attention to cleanliness and treatment it gets well. Open freely and drain thoroughly, irrigate daily, and trust to nature for recovery. All must feel that frequently kidneys are removed unnecessarily.

Dr. Hingson thinks that one should not be unduly timid about the condition in which we find the case. He has operated with good results when the patient was apparently in a hopelessly bad condition. If satisfied that the patient was dying from the effects of a stone in the kidney and nothing else, he would not hesitate to operate.

Dr. Shepherd remarked, in connection with the operation of removal of the kidney, that sometimes owing to adhesions to surrounding parts such a procedure was extremely difficult. He would prefer to remove the stone and wash out the cavity, for as long as any of the secreting tissue remained the organ could perform a certain amount of work and relieve the other. In a case in which he had removed the kidney, the patient died five years after of calculous pyelitis in the other kidney, obstinately refusing any further operation. Sometimes operation relieves all the symptoms although no stone is found and the kidney not removed, although previously the symptoms have been most marked. He instanced the case of a street car driver who had been fully relieved by such an operation.

Dr. Armstrong merely called attention to two points. The first, that frequently a stone gave rise to no symptoms; and, secondly, the intermittent nature of the symptoms, illustrating his remarks by the history of a case. He called attention to the amount of recovery that could take place in an apparently hopelessly damaged kidney.

Dr. A. B. Macallum, Toronto, read his paper on "The Pathology of Anæmia."

Dr. Cotton read a paper on "Appendicitis."

#### DISCUSSION.

Dr. Armstrong gave the history of a case illustrating the beneficial effects of early operation. If the abscess is not opened early it may open into the peritoneum, or otherwise terminate unfortunately. If the symptoms are marked, he would not delay operation more than thirty-six hours.

Dr. Præger emphasized the dangers of delay in operating. As a rule, the cases do not present themselves early enough. He would advise cutting down even if we find that the case might have got through without. No harm is done if ordinary precautions are taken and we prevent a recurrence of the disease. Opium is of very doubtful benefit, as it masks the symptoms. He would prefer to use sulphate of magnesia if he used any drug.

Dr. Powell thought it would be a bad rule to operate as soon as we were sure we had appendicitis. He would ask Dr. Præger if he would cut down unless he was sure that he had suppuration.

The President quite agreed with the paper and with the remarks of Dr. Armstrong. We are constantly being deceived, as shown by a case he mentioned, which presented all the symptoms of suppuration and yet resolution took place; operation had been suggested and refused by the friends. He also spoke of another case in which the operation had been postponed for a few hours, during which there was marked improvement, and the patient finally recovered. Sometimes an operation is decided on too hastily. Many cases get well without an operation, while in others no operation will save life. A median course should be pursued. He would like to bring forward the use of calomel. Mr. Hutchinson gives as his belief that calomel is almost a specific for this disease. It should be given in small doses, frequently repeated, until it acts on the bowels. In several cases in which the speaker had tried it the results had been good. He gives gr. 1-10th every two hours.

Dr. Sloan quoted two cases in which he had been prepared to operate, and when the appointed hour came the improvement was so marked that the operation was postponed indefinitely, and they recovered. Has been in the habit of giving calomel in slightly larger doses, gr. i. every two hours, and has had very happy results.

Dr. Dupuis has always given calomel, for, as he remarked, he had been brought up on calomel. He gives smaller doses now than he did formerly—one grain frequently repeated. He gave the history of a young man who had been suddenly seized with this disease. An abscess formed and burrowed under Poupart's ligament until the whole thigh became a bag of pus. It was opened, but the patient died. Also a case which was in the hospital, in which the abscess opened spontaneously in front, and finally a small stone came out. As the abscess cavity was large it was drained from the back, through the quadratus lumborum muscle. Recovery was slow.

Dr. Small rose to ask what should be done in those recurrent attacks in which the patient is laid up for a few days every few months. He called attention to the beneficial effects of the local application of ice.

Dr. Cotton replied very briefly, as time was limited. He said there were two forms, the plastic and the suppurative. The former got well without surgical interference, but the latter demanded operation. He would wait until pus formed to operate. In recurrent attacks he would remove the appendix at any time.

The meeting then adjourned.

#### FRIDAY MORNING (18TH).

The meeting being called to order by the President, the minutes of last session were read and confirmed.

Drs. Powell and Edwards were appointed auditors.

Dr. Dupuis read his paper on "Malignant Growths." Discussed by Drs. Shepherd, Daniel, and Sloan.

Dr. Shepherd then read his paper on a "Case



of Strangulated Cæcal Hernia." Discussed by Drs. Daniel and Roddick.

Dr. Buller read a paper entitled "Conservative Surgery of the Eye." Discussed by Drs. L. E. Desjardins, Mills, Foucher, Gardner, and Osborne.

Dr. Fenwick proposed, seconded by Dr. James Ross, that Mr. Thomas Bryant, of London, England, be elected an honorary member of this association. Carried.

Dr. Alloway read his paper, "Excision of the Cervix Uteri in cases of long standing Laceration and of Proliferating Endometritis." Discussion postponed until the afternoon session.

Dr. Powell gave the following notices of motion :

1. That only delegates and visitors from places outside the Dominion should have the privileges of registration without a fee.

2. That a definite annual fee for membership to the Canadian Medical Association be established, and that the present system of collecting a registration fee from those present at the meeting be abolished.

Dr. Aikins (treasurer) read his report, in which he stated that the present meeting has been the most successful in the history of the association—the enrolled membership being one hundred and thirty-five, the largest hitherto known.

Dr. Powell presented the auditors' report, which was received and adopted.

The meeting then adjourned to Notre Dame Hospital, where the members of the staff brought many interesting cases to the notice of the visitors, after which lunch was partaken of.

#### AFTERNOON SESSION.

The President in the chair.

Dr. Alloway's paper was discussed by Drs. W. Gardner and L. Smith.

Dr. Wilkins read his paper, "Cold Baths in Typhoid." Discussed by Drs. Ruttan, Powell, George Ross, Sloan, and James Stewart.

Dr. Small (Ottawa) read his paper, "Malignant Disease of the Cervix Complicating Labour." Discussed by Drs. Laphorn Smith, Wm. Gardner, and James Ross.

Dr. Wyatt Johnston (Montreal) demonstrated a new method of obtaining samples of water at any depth below the surface.

Dr. Elder gave a brief summary of his paper on "Traumatic Separation of the Lower Epiphysis of the Femur," and exhibited the patient. Discussed by Dr. Shepherd.

Dr. W. Johnston gave a demonstration of "The Sputum in Heart Disease."

Dr. McConnell read his paper on "A Case of Impacted Gall-stones followed by Abscess of the Liver," and exhibited the pathological specimen.

Dr. George Ross made a few remarks upon the case.

Dr. L. Smith read a paper on "A Further Plea for the A.C.E. Mixture."

Dr. Proudfoote gave a brief outline of a case of "Occlusion of Auditory Meatus by Hyperostosis."

A paper by Dr. Slayter, "Is Cancer on the Increase in Canada?" was accepted as read.

Notice of motion by Dr. Powell: "That in future a stenographer be engaged to report the proceedings of the Canadian Medical Association in order that an official record may be preserved."

Votes of thanks were then passed as follows :

(1) To the Governing Board of the Royal Victoria Hospital for the kind invitation to inspect the buildings of that institution.

(2) To the profession of Montreal for their kind appreciated hospitality.

(3) To the retiring President for the able manner in which the business of the meeting had been conducted.

The meeting then adjourned.

## Book Reviews.

*A Text-book of Practical Therapeutics, with especial reference to the application of remedial measures to disease and their employment upon a rational basis.* By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Second edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1891.

The object of the author is to furnish the practitioner or student with a reliable guide in the study of the application of remedial measures for the cure of disease. He has endeavored to present in a readable form the combined results of laboratory and bedside experience, and we are glad to be able to say that his efforts have been highly successful. We quite approve of the sentiments of Dr. Hare as expressed in his "desire to weave science and practice into so close a network that the foundations of experience may be cemented by the mortar of exact knowledge," yet feel compelled to acknowledge that a fair portion of our therapeutic methods are purely empirical. This fact is duly recognized in this work, and the subject is worked up in a way that should be satisfactory to scientific and practical physicians. The book is in all respects an admirable one, and will be of great service to senior students and general practitioners.

## Personal.

DR. K. N. FENWICK delivered the opening lecture at the Woman's Medical College, Kingston, October 14th. Dr. Lavell, the warden of the penitentiary, and Dr. Dupuis, also delivered short addresses.

DR. JAMES C. WILSON has been elected Professor of Medicine and Clinical Medicine in the Jefferson Medical College, Philadelphia, in the place of Dr. J. M. DaCosta, resigned.

DR. W. H. MONTAGUE, M.P., formerly of Welland, has removed to Vancouver, B.C., with his family, and it is reported that he has formed a partnership with Dr. John T. Carroll of that city. Drs. Montague and Carroll were fellow-students at the Toronto School of Medicine, and both graduated at Victoria University in 1882. We understand that Dr. Montague has not yet decided definitely to make Vancouver his permanent home, but he is likely to remain in the far west.

DR. P. MACDONALD, M.P., of Wingham, met with a serious accident, October 17, when he was thrown from his carriage and dragged some distance by the horse. He was found in an unconscious condition, with a broken leg. He soon recovered consciousness, and, we understand, is doing well.

DR. WM. OLDRIGHT, of Toronto, left his home for Halifax, October 14, to attend the funeral of his father, Major John Oldright, late of H.M. 81st Regiment, who died on that morning.

DR. W. H. DICKINSON delivered the Harveian oration before the Royal College of Physicians, October 10th.

THE twin daughters of Dr. H. A. Wright, of Oak Lake, Man., died September 29 and October 1 respectively, aged 7 months.

## Therapeutic Notes.

TREATMENT OF THE "RED NOSE."—According to Unna, one-fifth of the cases are due to acne rosacea, with vascular dilatation. Very often it stands in direct relation to seborrhea of the hairy skin. This seborrhea should be treated in the usual way. When acne rosacea is the cause, Unna gives fifty centigrams (seven and a half grains) of ichthyol daily internally, and at the same time prescribes lotions of the same substance in watery solution externally. At night, applications of the following paste are of benefit:

|                |   |   |   |      |
|----------------|---|---|---|------|
| R.—Zinc pomade | . | . | . | 20.0 |
| Rice powder    | . | . | . | 5.0  |
| Sulphur        | . | . | . | 2.0  |

Unna advises the multiple scarifications of the dilated veins after Hebra. This should be repeated two or three times a week. The minute wounds should be covered at once with moist absorbent cotton. In light cases, and as supplementary treatment, he advises repeated washings with ichthyol soap. Only warm water should be used.—*Amer. Pract. and News*, May, 1891.

THE PATHOLOGICAL ANATOMY OF TIC DOULOUREUX.—In *The Journal of Nervous and Mental Diseases*, Dana, of New York, asserts that trigeminal neuralgias are not due to neuritic or degenerative processes, but to an arteriosclerosis, which limits a supply of blood to the nerve. In four cases in which he excised a portion of the trigeminal, no organic process in the nerve could be demonstrated. In three of these, however, sclerotic patches were present in the vessels. Therapeutically he recommends agents which act on the vaso-motor system, such as aconitin, nitro-glycerin, etc.—*Buffalo Med. and Surg. Jour.*

ZINC GLUE FOR STIFF SURGICAL DRESSINGS.—Treutler recommends a preparation, first suggested by Unna, for obtaining stiff surgical dressings, such as are applied to fractured or dislocated limbs. It is as follows:

|                  |   |   |   |          |
|------------------|---|---|---|----------|
| R.—Oxide of zinc | . | . | . | parts 10 |
| Gelatin          | . | . | . | parts 30 |
| Glycerin         | . | . | . | parts 30 |
| Water            | . | . | . | parts 30 |

This is thickly applied and rubbed into the muslin or gauze forming the bandage. A thinner preparation contains 20 parts of gelatin and 40 parts of water, the other ingredients remaining the same.—*Med.-chir Rundschau*.

ERYSIPELAS.—Dr. Koch treated numerous cases of erysipelas with the following ointment:

|            |   |   |   |        |
|------------|---|---|---|--------|
| R.—Creolin | . | . | . | 5 j    |
| Iodoform   | . | . | . | 5 ii j |
| Lanolin    | . | . | . | 5 j    |

This ointment is spread as an even, smooth layer over the affected skin and its surroundings, on an area of at least two to three inches to the outside of the inflamed parts. The whole is covered by a piece of mackintosh.—*Med. and Surg. Reporter*.

TREATMENT OF GOITRE.—According to the *Journal de Médecine de Paris*, Auerbach has obtained an incomplete cure of goitre by the interstitial injection of osmic acid combined with massage:

R.—Osmic acid . . . 1 grain.  
Distilled water . . . 3 drachms.

The injection of this liquid is resorted to every two days, and massage is practised daily for fifteen minutes. Iodide of potassium was also given internally. After three weeks of this treatment, the tumor diminishes very greatly in size and the subjective symptoms disappear.—*Cincinnati Med. News*.

#### FUMIGANT FOR ASTHMA.—

R.—Stramonium leaves.  
Green tea . . . aa 5 j  
Lobelia inflata . . . 5 ij

Add a saturated aqueous solution of potassium nitrate, dry and preserve in a well-stoppered bottle. A tablespoonful suffices for fumigation.—*La. Sem. Méd.*, April 29, 1891.

#### ERYSIPELAS.—

R.—Ichthyol . . . 1  
Collodion . . . 2

Apply to the affected part.

FOR cold in the head, while in the acute congestive stage, there is no better remedy than gelseminum. One good large dose, say ten minims of the fluid extract, taken upon going to bed, will effectually dispose of this troublesome and uncomfortable affection. One dose is usually sufficient.—*Ex.*

THERE will yet be found, one may hope, some creation of the synthetic chemist which will form an iodine compound superior to the alkaline iodides. Duroy, of Paris, believes he has found it in the iodide of antipyrin. The name promises great things.

EQUAL parts of castor oil and subnitrate of bismuth is recommended as an application for fissured nipples.—*Ex.*

THE smell of iodoform can be removed from the hands by washing them in flaxseed meal water.—*Ex.*

## Miscellaneous.

PROFESSOR JAMES MARK BALDWIN, M.A., PH.D., of the University of Toronto, has written a handbook of Psychology, Feeling, and Will, which was issued in October. The following are some of the opinions of the first volume:

*Revue Philosophique*:—An excellent treatise on psychology, superior, and much superior, to perhaps any other that we know.

*Edinburgh Scotsman*:—The work is one of the most noteworthy that have appeared in recent times to vindicate the claims and establish the position of psychology as an independent science.

*Nation* (New York):—Taken as a whole, it is about the best we know.

*Oxford Magazine*:—Already in its second edition, and thoroughly deserves that honor. It excels just where Prof. James fails. *Senses and Intellect* is the best manual we have seen, and we look forward to the companion-volume.

*Boston Post*:—It is altogether a scholarly work, and done in a thoroughly scientific spirit which is as welcome as it is rare.

WE are told by the *Buffalo Sunday Times* that in that city, with its population of about 300,000, there are 423 physicians, or nearly one for each 700 inhabitants. In Toronto, with a population of 200,000, there are 336 physicians. Of these a few are not in active practice, and, without counting such, we have about one for each 600 inhabitants. Probably most will concede that Toronto is fairly well supplied. Some of the doctors think so.

THE number of new students in the Woman's Medical College of Kingston is four. We understand the whole number in attendance this session is seventeen.

THE following epitaph is in the graveyard at Childwald, England:

"Here lies me and my three daughters,  
Brought here by using Seidlitz waters;  
If we had stuck to Epsom salts,  
We wouldn't have been in these 'ere vaults."

REPORTS indicated that the seventeenth annual session of the Mississippi Valley Medical Association, held in St. Louis, October 14, 15, and 16, would be very successful. There were forty-nine papers on the programme.

SMITHKINS—"Hello, Doc! What are you doing?" The doctor—"Trying to kill time." Smithkins—"Why don't you prescribe for him?"

—*Puck*.



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ADDRESS

DELIVERED

BY DR. CRANSTON, ARNPRIOR, ONT.,

EX-PRESIDENT OF THE ONTARIO MEDICAL COUNCIL,

At the Opening of the 38th Session of the Royal College of Physicians and Surgeons of Queen's University, Kingston, and on the occasion of the dedication of the John Carruthers Science Hall, October 16th, 1891.

*Mr. Chancellor, Ladies and Gentlemen:*

Having been selected to give the inaugural address at this, the opening of the 38th session of the Royal College of Physicians and Surgeons of Queen's University, I acknowledge with pleasure and pride the great honor the Faculty have conferred upon me, but feel that the task should have fallen to the lot of some one of Queen's many distinguished graduates, who would have been better able to do the occasion something like justice.

For a mixed audience, such as I have before me, composed of college professors, professional men, and also professional women, students in different stages of the college curriculum, and largely of the lay element, it is difficult to select a subject that is alike interesting to all. I should, however, venture to crave your indulgence while I take a hasty glance at the origin and progress of the healing art and make a few brief observations more or less intimately connected with the profession of which it is my privilege to be an humble member.

I may here premise that, closely connected as the principles of medicine and surgery must

ever be, each being intimately bound up in the other, practically they may be regarded as separate and distinct; yet in tracing the history of one we are, even though unwittingly, more or less treading on the precincts of the other. Our thoughts and limited research in the present sketch will, however, be more especially directed in the line of surgical progress and development. And at the outset we may observe that this science is coeval with man himself. As surely as death came into the world by the fall of our first parents from the full perfection of the Divine model, so surely came pain and suffering, violence and bodily injury, developing subsequently into wars and dissensions of a graver character, each and all calling aloud for alleviation and relief. That surgery, then, in point of antiquity, should take precedence of medicine, before any attention was directed to the nature of disease, seems but reasonable. That external ailments and their corresponding cures should first rivet the attention of those whose thoughts and studies were primarily engaged in the healing art seems but natural. Would we indulge in a research into the realms of fabled and historic lore, we would be confronted with palpable proofs of the antiquity of our science. The prevailing custom of circumcision in Mosaic times rises in evidence. The undying relics left us in the inscriptions on the ruined walls of the renowned temples of the earliest days add their undeniable testimony. The custom of embalming the bodies of the dead among the Egyptians, a process performed

with such remarkable skill as to render its subjects capable of resisting the ravages of time and preserving them intact for our wonder and admiration after the lapse of thousands of years—this, again, most materially strengthens the claim. Chiron, the centaur, with his healing plants and medicinal herbs; and Æsculapius, the son of Apollo, reputed to be the inventor as well as the god of medicine, and his sons, immortalized by Homer in his renowned epic, 1200 years before the Christian era, proclaim the theme. And as we continue to unroll the records of time the spirits of our forefathers will dart from every page, and Pythagoras with his philosophy of medicine; Hippocrates, the physician of Cos, the father of medicine, whose theories and practices have come down to us from 400 years before the birth of Christ, along with Herophilus and Erasistratus, originators of the practice of human dissection; Xenophon, reputed to have been the first to arrest hemorrhage by means of the ligature; and other early devotees, each in succession, will form up into line and illuminate the records of ancient times.

And, passing from the Alexandrian to the Roman period, our attention would be arrested, in the first century, by Celsus, who contributed a valuable work, consisting of a comprehensive digest of all the reliable medical and surgical knowledge of his time. His method of performing lithotomy, his operation for cataract by means of depression, his rules for distinguishing fractures, his directions for the reduction of hernia, his operation for hare-lip—each and all emphasize him as the embodiment of the surgical knowledge of the world in his time.

Following him, after a lapse of about one hundred and fifty years, comes the brilliant genius Galen, the voluminous writer and skilful surgeon, whose cures were considered so remarkable that they were attributed to magic, or alleged to be derived from enchantment. His career was one of unqualified success as a public lecturer; his skill in dissection and the application of surgical apparatus added materially to the advancement of the profession of which he was, in his time, an able exponent.

For a long period after this distinguished landmark, science and art were lost sight of in the clouds of ignorance and barbarism that prevailed till, in the year 550 A.D., Actius ap-

peared. His operations extended to cutting out tumors, operating for aneurism, attempts at dissolving calculi, and he devoted much attention to inflammation, hernia, diseases of the eye, and other important branches of surgery. About the middle of the seventh century, Paulus Ægineta contributed valuable additions to medical science and performed many of the operations which are common in our day. From the time of Paulus till the beginning of the twelfth century neither Greece nor Rome produced any surgeon of note. The capture of Alexandria by the Saracens having diverted the channel of learning towards Arabia, one Albucasis appears to have been awarded the palm, about the end of the eleventh century, of being the chief surgeon of note, and his operations for lithotomy, the arrest of hemorrhage by cauterization, and his advocacy of the free use of surgical instruments, more or less paved the way for his successors.

From the twelfth to the fifteenth century an intellectual shadow brooded over the land, and the daylight of science, which had so auspiciously dawned, sank into the night of darkness and oblivion.

With the fifteenth century, however, and contemporary with the invention of printing and its powerful influence in the dissemination of knowledge, surgery effectually revived. Men of talent, enlightenment, and progressive ideas embraced it, and it began to arrogate to itself its proper place in the front rank of the liberal professions. Simultaneous with this revival, and indeed one of the potent factors in its origin and expansive influence, we have prominently brought before us the name of Ambrose Paré, the eminent French military surgeon, who, during his various campaigns, acquired an experience in gunshot wounds which directed his attention to the subject of hemorrhage and the best means for its arrest. He revived and improved the ligature practice and discountenanced the prevailing use of caustics and styptics. Though he incurred the abuse and persecution of his jealous brethren by his strenuous advocacy of a treatment ill at accord with such a primitive and absurd practice as admitted of the opinion that "it were better to let the limb drop off than cut it off," yet his persistency prevailed; he rose to the height of popular-

ity; he became the darling of the soldiers; was favored by the successive sovereigns of his time, and left works of genius of credit to himself and of value to the profession.

The middle of the seventeenth century welcomed the first British surgeon of note in the person of the celebrated Wiseman, surgeon to Charles II., and who, amid the horrors and bloodshed of the civil war, had ample opportunity for the prosecution of the study of his profession. In military practice he advocated immediate amputation in cases where the preservation of the injured limb seemed impossible, and dissipated the idea that gunshot wounds were of necessity envenomed with powder and ball and hence had to be subjected to a severe dressing treatment. Cotemporary with Wiseman was Harvey, whose discovery of the circulation of the blood exercised such a potent influence on medicine in general and surgery in particular.

In France, about this time, the scientific world opened its ranks to Petit, whose treatise on the diseases of the bone, invention of the screw-tourniquet, and other valuable contributions, have given him a foremost place in the annals of surgery; while Desault, an eminent teacher of surgical anatomy, clinical lecturer on surgery, as well as noted for the invention, improvement, and adaptation of various surgical instruments, claims honorable place by his side.

In England, about the middle of the eighteenth century, Percival Pott, the distinguished author, skilful operator, and practical surgeon, left his indelible mark among the historical records of this science. His treatment of fractures: his discrimination between injuries requiring amputation and those which do not; his especially valuable suggestions with respect to diseases of the head; his description and treatment of vertebral disease, and his commendable reform in the limitation of cautery treatment; these, among other practices and treatises, stamp him as the man of his time.

In Scotland there appeared contemporaneously John Hunter, a pupil of Pott, the eminent physiologist and pathologist, one of the most gifted surgeons the world has ever produced. Among his important discoveries and skilful operations may be especially selected the cure of popliteal aneurism by ligation of the

femoral artery. His first operation of this nature was performed in 1785. Brilliant as was this discovery, and beneficial as it was in its results, its distinguished author was not allowed to claim it without subjecting himself to the envy and detraction of his jealous rivals. Of him, as well as of others whose names are mentioned in this hurried sketch, it may be truly said in the words of the poet:

"He who ascends the mountain top shall find

The loftiest peaks most wrapt in clouds of snow;  
He who surpasses or subdues mankind

Must look down on the hate of those below.

Though high above the sea of glory glow,

And far beneath the earth and ocean spread,

Round him are icy rocks, and loudly blow

Contending trumpets on his naked head,

And thus reward the toil that to those summits led."

Such is a brief outline of the history of the healing art from the earliest time down to the end of the eighteenth century. And though at that date it had reached a high state of perfection, yet it is in the nineteenth century, and mostly within our own times, that its greatest achievements must be recorded.

Up to 1847 there was no agent known in the profession that would produce complete insensibility to pain, although opium, cannabis indica, and other narcotics, were used with partial success for that purpose; but about this date chloroform and ether appeared on the scene, each capable of producing the most complete anæsthesia or insensibility, and under the influence of either of these agents surgical operations, no matter how difficult or formidable, could be performed and the patient remain through the whole ordeal in a state of calm and peaceful slumber.

These anæsthetics have proved a priceless boon to humanity. No one can estimate the amount of suffering they have already saved in the hands of the surgeon and the accoucheur. In connection with these grand discoveries the name of Sir James Simpson, of Edinburgh, who first proclaimed to the world the use of chloroform, and Dr. Jackson, of Boston, that of ether, will go down to posterity and be held in grateful remembrance long after the names of kings and queens shall have been forgotten, or perhaps only exist in the musty and neglected pages of history.

Surgery now entered upon a new era. The



binding-straps of former days were thrown away. Patients no longer entered the operating theatre as victims of despair, but with hope and confidence, knowing that no matter how difficult or serious the operation they were about to undergo, they would feel no pain, experience no suffering. It can easily be imagined that an impetus was given to surgery by the use of these soothing and intoxicating drugs. Operations that before were considered impracticable or so appalling that life itself was often given up rather than undergo the anguish produced by the surgeon's knife are now welcomed and performed with comparative ease and safety.

But in this age of invention and discovery—an age in which every department of science is being pushed forward with wonderful activity—it is not surprising that we are enabled to record another grand triumph for surgery.

The labors of Lister, Koch, and other scientific workers in the field of bacteriology, revealed the fact that the air we breathe, the floating dust we inhale, especially in confined and ill-ventilated rooms, contain numerous micro-organisms, or germs, which, coming in contact with living tissues, such as are found in recent operative or accidental wounds, are capable of producing a train of evils which former generations of surgeons deplored, but, not knowing the cause, could not successfully obviate; such evils, for instance, as suppuration, septicæmia, erysipelas, and gangrene. By long and patient scientific experiments, Lister discovered that these living germs could be destroyed by various medical agents, the principal ones being bichloride of mercury and carbolic acid, and, as a consequence, wound infection prevented and the evils just mentioned greatly diminished. Hence another important era in the history of the healing art.

Lister's discoveries and the principles and methods which he promulgated have within the last twenty years revolutionized the whole system of operative surgery, with the gratifying result that the mortality following the larger operations, such as amputation of the extremities, has been decreased from thirty-five to about fifteen per cent. Within this time not only has the system of surgery changed, but it has expanded to such a wide range that every part of

the human body has become tributary to the surgeon's knife. Could such men as Abernethy, Sir Astley Cooper, Liston, and Mott, giants in their days, be called up from their peaceful abodes, they would stand amazed at the extraordinary advancement made in their own loved science.

Passing into the field of medicine, we find that here also, within the last few years, great and wonderful results in the direction of improvement and progress have been accomplished.

In all the centres of learning there has been a general waking up to the necessity of moving onwards in order to keep pace with the times in which we live. Colleges have enlarged and improved their courses of study; methods more discriminating in tendency and successful in results have been employed; instruction based on the most recent research and marked by a distinctive practicality has been called into play, and every means adopted calculated to equip the medical student with an outfit of theory and practice commensurate with the honorable and responsible profession which he has embraced.

The old-fashioned system of feeding students on didactic lectures for six months every year has, to a certain extent at least, been abandoned, and the more healthy and invigorating food of laboratory and clinical instruction has been supplied in their stead, in order that young men about to enter on the wide field of medical and surgical practice may be the better qualified to cope with the responsibilities and difficulties that surround them on every side.

The contributions of Tyndall and other eminent physicists from the regions of the infinitesimal orders of life have lighted up the dark mysteries of pathology and thrown open new fields for our inspection and observation. The microscope in the hands of the physiologist and pathologist bids fair to revolutionize still further the science of medicine. With its aid Pasteur has discovered the microbe of hydrophobia, and, having ascertained the cause of this formidable disease, has also discovered and announced an effectual remedy.

Following in the same line of research and scientific experiment, Koch has immortalized his name in the discovery of the cause of con-

sumption—the tubercle bacillus; and when it was proclaimed that he had also discovered a cure, tuberculous patients from the world over flocked to Berlin as the invalids of old did to the pool of Bethesda, expecting to be relieved of their sufferings and to be made whole; but the angel never appeared, the tuberculin failed, and, as it might have been expected, gloom and despair settled on the scene. Hope, however, is not yet abandoned on the part of Koch; for the cause of the disease being known, it is reasonable that a remedy should follow; and for the sake of suffering humanity and of those who are every day seeing their nearest and dearest sinking slowly but surely into the tomb, may the time not be long!

Sanitary science, although it may be traced back to the times of Moses—for he himself was an eminently practical sanitarian—is indebted to modern discovery for the advanced position it holds to-day. It now claims special attention in all our colleges, and justly so, for it is intimately connected with the welfare and happiness of the people. In former times diseases, which often assumed the magnitude of plagues, were looked upon as the visitations of Providence for the punishment of sin; but with our improved knowledge we now regard them as preventible, and as a consequence of a lack of a proper observance of nature's laws; hence the necessity of every physician making himself acquainted with this important branch of his profession, in order that he may be skilled in the prevention as well as the cure of disease.

There can be no doubt, then, that the nineteenth century has far outrivalled any former era in the wonderful advancement made in medicine and surgery. Many whose names are dear to our profession have passed away, but there remains a vast and powerful host of faithful and successful workers, who are, in spite of all difficulties, penetrating deeper and deeper into the mysteries of nature.

To those young gentlemen who are here and who have made up their minds to enter the medical profession, especially to those who are in the first year of their course, I would take this opportunity to remark that the first thing of importance to be done is to form regular and systematic habits of study. To the student of the present day time is precious. The time

when he could afford to trifle away half of his hours in idleness and folly is past. The wide range of the curriculum demands that every moment should be utilized to the best advantage if he expects to pass safely through the ordeal of the final examination of the college, and subsequently that of the Medical Council.

It seems to be conceded by the best authorities that, out of the twenty-four hours, eight should be devoted to sleep, and in that case ten or twelve might be taken up in attending lectures, reading, and study, the remainder to be devoted to mental diversion and healthful bodily exercise. The kind of exercise is a matter of choice, some preferring the gymnasium, some a quick, smart walk, while others would delight in a few rattling rounds at the manly art; but any or all of these modes should be indulged in solely for the purpose of keeping the muscular system in a full and perfect state of health.

Through neglect of paying proper attention to the requirements of the body, many of the brightest students, who gave every promise of being an honor to our profession and to their *alma mater*, have fallen by the way, or passed out into the world mentally and physically unfitted for their work.

Thoroughness in every branch of the curriculum is absolutely necessary, but especially is this the case in practical anatomy, which ought to be acquired from the material for the purpose, as little as possible from books, and on no account from plates. Without a thorough knowledge of anatomy no one can ever hope to excel as a surgeon. In the field of medicine it is possible to drift smoothly along, for the public are easily deceived; but an unredressed dislocation or a badly treated case of fracture will haunt the surgeon till his latest hour.

Finally, gentlemen, the institution which you have chosen to attend is fully equipped in all its appointments; and while it claims no superiority to our sister institutions in the other cities of our fair Dominion, it does claim to hold a position second to none of them. Queen's University, which in time may become your *alma mater*, though young in years, has grown and expanded from a very small beginning of a little over fifty years ago—materially, to the massive and imposing structure which we now

occupy; and in a technical, literary, and professional point of view, to an institution occupying at least a creditable position among the intellectual centres of this intellectual age. Already her graduates in Arts and Medicine extend from ocean to ocean, and throughout this vast domain, in every village, town, and city, enter into friendly but successful rivalry with the graduates of other colleges. Go to India, China, or Japan, or to the far-off isles of the sea, there you find them performing the duties of their high calling with credit to themselves and in a manner reflecting honor on their university and their country.

Depending upon no State aid, but upon the moral and financial support of her friends the world over, and notably upon the influence, the energy, and the indomitable perseverance of her high-minded and gifted Principal, she rejoices in an enduring foundation to-day. Her possibilities for good are great and her influence far-reaching. Untrammelled by sectarian narrowness, and unfettered by ecclesiastical restrictions, she dispenses her blessings alike to the rich or the poor, to the Jew or the Gentile; and may she go down through the ages with her independence intact and her glory undimmed!

#### CASE OF PHLEBITIS AND THROMBOSIS OF THE SAPHENOUS VEIN, FOLLOWED BY APHASIA AND DEATH.

BY JOHN HUNTER, M.D., TORONTO.

The patient, of active habits and about 32 years of age, was delivered of her fifth child on a Friday night. The labor was a normal one, and the two succeeding days were passed so comfortably that she told her husband on leaving the house on Monday morning that she felt quite able to get up. However, a few hours later she began to complain of some pain or rather discomfort in the right leg. The nurse rubbed it for her and wrapped it up in flannel. During the day there were some slight chills and fever, which she attributed to the secretion of milk. I called in the evening and found a temperature of  $102^{\circ}$ ; breasts turgid; no distension or tenderness in pelvic region; uterus firmly contracted; lochial discharges normal. The internal saphenous vein of the right leg was

tender throughout its whole length, and the trunk and branches could be pretty well mapped out by the yellowish purple discoloration. The vein became more cord-like, but retained its uniform calibre. There was very little infiltration of the surrounding tissues. No pitting on pressure, and no enlargement of the limb.

The treatment consisted in elevating the limb and applying a long narrow linseed poultice, prepared with a strong decoction of poppy heads. The anodyne effects of this was quite sufficient to relieve all the pain. Absolute rest was strictly enjoined. A purgative had already been taken and the bowels freely moved. A ten grain dose of quinine was given at once, and repeated in four hours. Six grains of phenacetine were given two hours after each dose of quinine. Cinchonin and profuse perspiration were produced. The quinine was continued in five-grain doses every fourth hour. An ounce bottle of spirits am. arom. was given to the nurse with instructions to put a teaspoonful in a wineglass of whisky and give teaspoonful doses diluted with water just as often as the stomach would tolerate it. About an ounce of the arom. spirits was used every twenty-four hours. Two or three times a day very careful examinations were made in search of abnormal conditions elsewhere than in the vein, but invariably with negative results.

The generally favorable appearance and condition of the patient from the initial chill on Monday until 2 p.m. Thursday: the absence of marked temperature variations or chills, of lymphangitis, or any œdema or infiltration of the limb: of any involvement of pelvic organs, tissues, or vessels: of any intestinal, renal, cardiac, respiratory, or cerebral complications, seem pretty conclusively to limit the lesion to an ordinary phlebitis unaccompanied by any systemic infection. The case progressed so favorably that about 1 p.m. on Thursday the patient, nurse, and myself were exchanging mutual congratulations.

However, about an hour later I received a telegraphic communication saying that the patient was paralyzed and speechless. I hastened back and found right hemiplegia and motor aphasia. I say motor, for the visual, auditory, and intellectual faculties seemed unimpaired. There was soon, judging from appearance, the most in-



tense chill I ever witnessed, followed by a temperature, taken in axilla, of  $108^{\circ}$ , exhaustive perspiration, pyæmic breath—in short, every evidence of fatal septic poisoning; and so desperate did the conditions seem that I looked for death at any moment. However, an ice cap to the head, sponging with cold water, and, as there was difficulty in swallowing, twenty grains of quinine, 5i. spirits am. arom., some whisky and milk were given and retained by rectum. These means seemed to revive her somewhat, and apparently made her more comfortable. Life was prolonged for twenty-four hours. During the last two hours, though consciousness was retained, there was evidence of heart failure, and death took place suddenly. *No post mortem.*

Phlebitis of the veins of the lower extremities during the puerperal period may be caused by thrombi forming in the uterine or iliac veins, thereby obstructing the venous circulation, which, owing to the few valves and the excess of the longitudinal over the circular fibres in the walls of the saphenous vein, easily sets up inflammatory action in this vessel. A varicose condition of the veins was a possible factor in this case. A vigilant watch was kept over the heart's action, but, as already stated, no cardiac complication appeared, and the heart, up to the last hour or so, did its work most efficiently.

On two different occasions, before her confinement, excessive use of a sewing machine had inflamed this vein, and not only obliged her to give up work, but even to rest in bed. No mention of this was made during the period of labor, for, as she said afterwards, all the soreness had about gone. It seems very probable that there were still some smouldering embers of the recent inflammatory action that were easily rekindled by the severe straining incidental to parturition.

#### A CASE OF POISONING BY OIL OF TANSY.

BY A. J. HARRINGTON, M.D., TORONTO.

The following case, which occurred in my practice last month, may from its rare occurrence prove interesting. I was called to see a woman who was said to be having fits. I found her lying on the floor in the kitchen. I shook her shoulder, and she looked up stupidly. I got her to arise, which she did in a staggering manner,

and I placed her in a rocking-chair. She was still dazed, and when questioned answered incoherently. I examined her pupils—they were normal; her tongue had not been bitten. During an expiratory effort I fancied there was a peculiar odor from her breath. I asked her what she had been taking; she said nothing. I passed my index finger to the back of pharynx and induced an effort at vomiting, and the odor of tansy was now quite evident. I immediately gave warm mustard drinks, and she vomited about half a pint of fluid, which smelled very strongly of tansy. I then gave her a large tablespoonful of castor oil, and put her to bed, and put her on a stimulating treatment with brandy and white of egg. I found a bottle, after searching for some time through the house, labelled Oil of Tansy, and containing about half a drachm of the liquid. I brought it to the bedside and asked her if she had seen that bottle before; she said no. I then left her, still keeping up the stimulating treatment, and on returning in two hours found her condition much improved. I asked her how much oil of tansy she had taken; she said a teaspoonful. I saw her next day and she was quite well, only complaining of a heaviness in the stomach and bowels. Her story: She had heard that oil of tansy was sure to bring on a miscarriage, so she went to a druggist and he told her it was a good drug for that purpose, and to take five drops for a dose. She took it home and took twenty drops at bedtime, and next morning about six o'clock a teaspoonful, and did not think it bad to take. Just before seven she took a large dose of Epsom salts (very fortunate, indeed), and it operated in about three-quarters of an hour. At about ten she started to go to the back shed for wood, and remembers nothing afterwards until she found herself in her bed. Her neighbor, hearing a little child weeping, had looked over the fence and seen the woman lying on the ground, her hands clenched, and foaming at the mouth. She helped her into the house, when she fell down on the floor, in which position I found her on my first visit. In searching the literature, I find only the following cases recorded by Woodman and Tidy:

(1) *Medical Times and Gazette*—April 13th, 1861. Female, æt. 21. Took strong decoction to secure abortion. Death.

(2) *Can. Med. Journal*—November, 1869. Teaspoonful to induce miscarriage. Recovered. Did not abort.

(3) *Amer. Jour. Med.*—See July, 1852. By Dr. Hartshorne. Teaspoonful taken by mistake for essence. Death in one hour.

(4) Same journal, same date. By Dr. Dalton. Eleven drams. Death in three and a half hours.

(5) Same journal, May 1835. Half ounce oil. Death.

(6) *Journal de Pharmacie*—April, 1870. Took one ounce oil for abortion. Had convulsions; foaming at mouth; profound coma; dilated pupils; feeble frequent pulse. She vomited; recovered.

In the case above mentioned the patient's quick recovery was most probably due to the providential dose of salts, which flushed out the gastro-intestinal tract. The convulsions were in all likelihood, epileptiform. I did not see the case early enough to note any pupillary changes. The dose did not have an abortive effect, and the symptoms were almost wholly confined to the cerebro-spinal system.

## Selections.

### INSTITUTIONS FOR CONSUMPTIVES.

A REVIEW OF THE NEWER AND MORE SUCCESSFUL METHODS  
OF TREATING THIS DISEASE, TOGETHER WITH A  
DESCRIPTION OF INSTITUTIONS ESPECIALLY  
ADAPTED TO THIS WORK.

BY C. C. FITE, M.D., NEW YORK.

Many of the best minds in the medical profession have for a long period of years been devoted, with untiring energy, to the task of discovering a cure for that relentless enemy of mankind, consumption.

Delay in proper treatment is a most serious matter, and so many cases are treated after almost any kind of method until they become hopeless, when they are sent to travel around the country, wasting their strength and resources, and then winding up in Florida, the Adirondacks, Colorado, or the Tennessee and North Carolina mountains, as a last resort, which should have been the first. But climate is not all, as so many fondly hope, and to their sorrow. *The need is not only a proper climate, but a proper treatment.*

These facts have been so evident to my mind that I have for years watched with increasing interest the efforts made by trained specialists to perfect institutions for the treatment and cure of consumption, as it is now established beyond cavil that a large proportion of cases of consumption can be cured if taken early enough and properly treated. If so much can be accomplished by the skilful use of dietetic measures, exercise, hydrotherapy, tuberculine, and perhaps by the pneumatic cabinet, cod-liver oil, oxygen inhalation, creosote, and other remedies, in any climate, however unfavorable, how infinitely much more may be done when these measures are supplemented by a dry, pure, and invigorating atmosphere, and in an institution where the most minute detail of the patient's life is regulated by an experienced and painstaking physician with every facility for treatment at hand and in a building adapted to the purpose.

I shall presently review the list of institutions especially provided for this purpose. All of them have done good work, and their results show the benefit of institution *versus* private treatment.

Private and public institutions for consumptives are the necessary outcome of increasing specialties in practice. Formerly the general practitioner required nothing but the general hospital; then came the divisions into departmental wards, where men who had obtained special knowledge took particular charge. After the beneficial influence of such division of labor became apparent the lines were still more strictly drawn, and we now have wards for nearly every group of diseases, so that the general ward has practically disappeared in many hospitals.

There is no question that if an institution is especially equipped and conducted for an especial purpose, and is under the charge of a physician especially interested, competent and devoting his best efforts to the especial work in hand, the results will be better.

It is therefore strange,—consumption being so prevalent a disease, and one in which recovery is so difficult—that, until recently, little effort has been made in this country to apply to it the advantages of special professional labors in special institutions, although in Europe the example of Dr. Brehmer, dating back as long as thirty-six years, shows clearly by the results in his institution in Goerbersdorf the great advan-

tages obtainable as compared with private practice.

Dr. Brehmer was at first much opposed, even by the profession, and his early struggles for the permanent establishment of his institution, and in obtaining sufficient professional support, form an interesting part of the history of phthisiotherapy, of which he has since, and justly, been recognized to be the founder.

The growth and development of his institution has been phenomenal, and the convincing evidence of the incomparably better results accomplished by him compelled recognition eventually even from those who, in the early history of his institution, were his avowed opponents. In subsequent years institution treatment of consumption under a favorable climate has been recognized by all authorities in Europe as leading to the best results: anything less than that implies diminished chance for recovery.

In view of the now generally conceded infectious nature of tuberculosis, through the medium of the sputum and other discharges and excretions from patients, the question of institution treatment has become one of still greater importance, and the physician cannot ignore this matter by maintaining a position of non-committal or indifference, but must consider the question of prophylaxis in the interest of predisposed individuals living in common with tubercular patients at their houses and in the hotels and boarding houses of our climatic resorts.

I have mentioned the successful institution of Dr. Brehmer, in Goerbersdorf, Germany. Dr. Brehmer was the pioneer in this line, and we now have others which have done most excellent work, notably one at Falkenstein. Others are found at St. Balsien, Reibottsgrün, Rehburg, St. Andreasberg, and Blankenheim.

In this country a number of attempts have been made in the same direction. Some of them have failed, others have already achieved marked success. There are two small sanatoria for the treatment of consumption in Colorado, at Colorado Springs, one known as the "Glockner Home," the other as "Bellevue," and a third is in course of construction at Lake Palmer. These are, I understand, partly sustained by donations.

Dr. Vincent Y. Bowdich has, through charitable gifts, opened a small institution called the "Sharon Sanitarium," near Boston, Mass. It is

intended for women only, and, whilst not a charity, the prices are nominal.

At Saranac Lake, N.Y., is an institution which deserves great praise for the excellent work done. It is known as the "Adirondack Cottage Sanitarium," and is in charge of Dr. E. L. Trudeau. It is principally sustained by gifts, and the prices charged are very small. It was established in 1884, and has steadily grown not only in its capacity, by the addition of wings, but also in the good opinion of the thoughtful members of the profession who have followed its progress; and has been a practical demonstration of the value of institute treatment in cases of tuberculosis.

The Winyah Sanitarium at Asheville, N. C., in charge of Dr. Karl von Ruck, is the only institution in this country of a private character for the reception of patients who are not requiring charitable aid, depending for its existence upon patients who have means to meet their expenses for entertainment and treatment, and for patronage upon the support of the medical profession.

It is modelled after like institutions in Germany, especially those at Goerbersdorf and Falkenstein, both in its internal appointments and external surroundings, and the methods of management are also very much the same.

The consideration of the detail in arrangement and management of this institution contains many a valuable lesson not only for any one contemplating the founding or management of a sanitarium, but also for the general practitioner. Apparatus for disinfection by steam of everything that has come in contact with a tubercular patient before it is again used is provided. This disinfection is extended even to the table-ware, silver, glasses, napkins, the room linen, etc.

No room is assigned unless it and everything in it has previously been thoroughly disinfected after having been occupied, even for a single day, by a patient. All the plastered walls in the house are painted and varnished, and are frequently washed with solutions containing disinfectants, as are also the ceilings, floors, and furniture.

The house contains accommodation for one hundred guests. The rooms are well furnished with a view to comfort. A microscopical and bacteriological laboratory has been established,



and additions are being made to the equipment from time to time.

Dr. Von Ruck, apart from climatic treatment, which he carries out systematically, believes that nutrition is the basis of all successful treatment, and measures the value of every method by that standard—as before stated, I hold this to be all-important—at the same time he gives close attention to the prevention of relapses and holds that these are due to errors or mismanagement, and patients must be watched carefully and made to understand that relapses will prevent recovery, and are, as a rule, avoidable.

The writer has had unusually good opportunities for studying the climate of the mountainous system in which Asheville is situated, having spent several summers as resident physician at various mountain resorts in that region, and having travelled on business or professional errands over all of the vast mountain area in East Tennessee, Western North Carolina, Eastern Kentucky, and West Virginia. In the more elevated portions of this country consumption is practically unknown. I have never seen a case of indigenous tuberculosis in the region among the mountain natives.

Neither of the celebrated institutions in Germany have anything like the climatic advantages which are afforded at Asheville; and while located in mountainous regions, neither of the institutions can be said to possess sufficient elevation to make it a prominent factor in the cure of patients. Nor have they the conditions of temperature, at once moderate and cool in the summer and free from the severity of extremes in the winter, as, for instance, can be found in the mountainous region under consideration. Yet these institutions are known all over the world because of the greatly better results obtained as compared with open health resorts at which no particular control of patients is exercised, although their climate may present features which seem more desirable.

The climate of Asheville is an all-year-round climate, and the only one east of the Rocky Mountains. No extremes in temperature are experienced. The summers are cool and the winters mild, yet not so warm as in the more southerly resorts, owing to an elevation of 2500 feet amidst the mountains which surround the plateau, to heights of five and six thousand feet

on every side. Such a tempered winter climate is infinitely preferable to an enervating, warm temperature, in which the air contains necessarily a greater amount of moisture, and under which the nutritive processes are not as active, tending rather to anæmia and debility. Of course, in far-advanced stages of the disease a warm climate may allow such a patient to be out of doors without the amount of clothing and protection required under extreme amount of emaciation and anæmia accompanying the last stages of pulmonary tuberculosis. But in cases where curative efforts are still justifiable, and in the incipient and early stages, a bracing climate is preferable, and such patients may spend the greater part of the day out of doors in Asheville during the entire winter months.

It is to be hoped that the true mission of the modern sanitarium will be more fully understood by the profession at large, and that they will be sustained so as to encourage the building of others. Unfortunately the fatally erroneous idea seems to dominate the people, and the profession also, that consumption is an incurable disease. Its diagnosis is therefore delayed from motives of sympathy, or from negligence to the first symptoms. Consequently a resort to a favorable climate is delayed until it is too late to reap any real lasting benefit. Men like Brehmer, Trudeau, and Von Ruck, deplore this sad mistake more than others because they realize more clearly than others the enormous responsibility which rests upon the family physician, upon whose early recognition of the disease and prompt removal of the case to a sanitarium hangs the fate of the sufferer. All considerations of business and social interests must be set aside at once if anything of value is to be accomplished.

The sanitariums should be looked to as places in which we hope and expect to see the cases cured in, not as hospitals to die in.—*Abstract of paper in Dietetic Gazette.*

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SIR GEORGE H. PORTER, Bart., M.D., one of the most eminent of the surgeons of Dublin, has been elected Regius Professor of Surgery in the University of Dublin, in the place of Mr. William Colles, resigned. Sir George, in addition to his high position as a surgeon, is said to be the richest member of the profession in Dublin.

## THE USE OF DRUGS IN THE TREATMENT OF EARLY PHTHISIS.

*Read at the meeting of the British Medical Association*

BY J. C. THOROWWOOD, M.D., F.R.C.P.,

Senior Physician to the City of London Hospital for Diseases of the Chest, Victoria Park.

It is in cases of catarrh at the lung apex due to cold caught or to respiration for some time of close, vitiated air that drug treatment appears to advantage. That peculiar catarrhal state of the apex which has been described as pulmonary cachexia, and which is close on the borders of tubercle, and is due to a degenerated condition of the epithelium from constant respiration of bad air, improves rapidly when the patient is removed to a pure air, such as that of Bourne-mouth. Where, however, we cannot give the patient the advantage of removal, we have to do our best with drugs. Specially, I would draw attention to the good results that may be obtained in such cases from the use of the hypophosphites. From what I saw of the effect of phosphorated oil given in cases of phthisis by the late Dr. Cotton at Brompton Hospital, I was induced to try the hypophosphite salts. The oil of phosphorus given in small dose in capsules is very apt to cause nausea, but this objection does not apply to the hypophosphites, and at the same time these salts contain phosphorus in such an active condition that they burn readily when heated in a capsule over a flame.

The result of some twenty-five years' experience in the use of the hypophosphite salts has led me to the following conclusions based on records of cases. Hospital outpatients who came with cough and expectoration, perhaps blood-stained at times, and who presented *râles* at the lung apex, continuing there after some amount of bronchitis due to cold had been overcome by various remedies, improved in a way that surprised me on giving them five grains of hypophosphite of soda three times a day. Plain water or infusion of calumba were the vehicles usually employed in giving the remedy. The patients got better, and some would return in perhaps six months time with the same symptoms and signs again, and would again improve on the hypophosphite treatment. In cases of persistent consolidation of lung after pneumonia, I have in very many cases seen

absorption of effused products proceed speedily under treatment with hypophosphite of soda: this, too, in cases where ordinary treatment had been followed to no purpose for some time. Cases of this description that appeared doomed to a speedy death by phthisis I have seen clear up and recover perfectly on five grains of sodium hypophosphite given three times daily for five or six weeks. In cases of pleurisy with effusion, the hypophosphite salts seem to me to have no effect whatever. In cases where the pleura appeared to have been roughened by deposit so that friction sounds of loud and coarse character were very audible, I have seen all these sounds vanish and the patient do well under the hypophosphite of soda.

Before the days of the tubercle bacillus, I had learnt that there were cases of phthisis attended with fever and rapid in progress in which the hypophosphite failed in a way that I could not understand. I believe, from more recent observation, that these were cases where the tubercle bacillus was too strong to be overcome by a medicine whose action lay mainly in promoting the absorption of inflammatory products.

Many years ago Dr. Graves, of Dublin, as well as Dr. Rush, of Philadelphia, and Dr. Munk, of London, laid stress on the use of mercury as an absorbent in cases of phthisis. Mercury, says Graves, is of use where the affection of the lung is local and the system generally not affected. In scrofulous pneumonia, rather than in tuberculous disease, the mercury is said to act with most advantage. How far this is true I will not now stay to inquire, but the idea in giving mercury was to get rid of inflammatory deposit and so prevent phthisis. We now say, get rid of inflammatory deposit and so take away what may prove a nest for the growth of tubercle bacilli.

Whether it be phosphorus or hypophosphite that is given, I believe a process of fatty change and liquefaction of the effused product is set up and absorption follows. Sometimes the process seems to me for a time attended with some amount of increase in temperature, and when this is the case it is well to reduce the dose of the drug or give it at longer intervals. In recurring hæmoptysis, too, the hypophosphite must be used with care. The most active in liquefacient power is the hypophosphite of potash,

and I remember a practitioner telling me he had given, as he said, the hypophosphite of soda, and it caused such rapid breaking down of the lung that he determined to have nothing more to do with hypophosphites in phthisis. It turned out to be the hypophosphite of potash that he had been giving. The lime hypophosphite acts often remarkably well in cases where secretion is profuse. The daughter of a medical man was cured of bad diarrhoea by hypophos. calcis. The lime salt checks profuse sweating and also diarrhoea. The dose should not exceed five grains, and it answers best when given with five to ten drops of the saccharated solution of lime, glycerine, and sometimes syrup of tolu.

Very rarely indeed have I found, when the hypophosphite fails to remove an apex catarrh or inflammatory deposit, that I have gained by changing to such medicines as tartarated antimony in very small dose, iodide of potassium, or some form of mercury. Once or twice a change of treatment has been eminently unsatisfactory; in one case clearly disastrous.

Passing over such drugs as the mineral acids, creasote, and guaiacol, which are often useful as tonics in some cases, I must say a word on the use of the inhaling respirator. This mode of treatment first came to my notice more than ten years ago. A patient, who had been at Ventnor Hospital, showed me the simple form of inhaling respirator used by Dr. Sinclair Coghill at that hospital. This method of treatment has now been greatly extended, and I believe it to be trustworthy and efficient. Most here present know the form of respirator now in use, and the use of the respirator with iodoform and eucalyptus oil, as devised by my colleague, Dr. Vincent Harris, has proved most useful in the treatment of early phthisis.

The patient should, after clearing his lungs as much as possible in the morning by cough, wear the perforated zinc respirator invented by Dr. Burney Yeo, and keep it on for an hour; again in the middle of the day, and a short time at night. Nothing appears to me so useful as iodoform with ether, alcohol, or eucalyptus oil. This is soothing and excites no cough. Next to this comes the best German creasote, with or without ethylic alcohol. Thymol, carbolic acid, and iodine are all inferior to the above.

Next to these inhalations—I would not say inferior to them—I place persistent, and even severe, counter-irritation as a means of treatment too much forgotten. We have seen a remarkable arrest of phthisis of an active kind in a young woman in the Victoria Park Hospital from croton liniment used eight years ago. The linimentum terebinthinæ aceticum of St. John Long is still deserving of a high place, especially in chronic disease of the lung base.

I would like to have said a word on the use of drugs in early and late hæmoptysis, and on the great value of occasional emetics, but I think I have said enough for the present.—*British Medical Journal.*

THE INSOMNIA OF CONTINUED FEVERS AND ITS TREATMENT.—In the earlier stages of these fevers insomnia is pretty certain to accompany the hyperthermia, while sleep often attends a fall in the temperature. It would seem that overheated blood is itself inimical to sleep by exciting the cerebrum. Cold bathing—the cold or tepid bath—and antipyretics quiet the nervous disturbances and promote sleep. Hence, for the restlessness and insomnia of typhoid there is often no better treatment than a cold bath of about fifteen minutes' duration, and during the bath cold water may be poured on the head in cases of extreme pyrexia with restlessness and delirium. In some cases the bath may be of longer duration. Where the cold bath is impracticable, some one of the new antipyretics may be tried. These antipyretics, though they undoubtedly have a marked action on the thermogenetic and thermotaxic heat centres, which are under abnormal irritation by the fever-poison, an action which is extended to the higher cerebral centres, certainly do not affect the infectious agent, and hence the course of the fever is not influenced by them. Their prolonged use is probably attended by some cardiac depression (an evil to be especially shunned in fevers), and the best clinical authorities are shy of them, seeing no permanent advantage in the continued administration of these medicaments, but possible mischief. In regard to pure hypnotics, chloral is undoubtedly the best. Sometimes in the later stages of the fever twenty drops of deodorized tincture of opium is of service. Sulphonal, chloramide, and the newer hypnotics, are



not of much service. Alcohol, in not too large doses, has a place in this line of therapeutics. Febrile insomnia is essentially a toxic insomnia. Uræmia probably enters as an important factor. In the active stages of fevers, and in the declining stages when the circulation is oppressed and languid, and the prognosis is grave, elimination by the kidneys is always imperfect; hence an important part of the treatment should be to promote the excretion of the poison and the removal of effete matters. Unfortunately, this indication can be but imperfectly met. All that can be done is by suitable nutrients and stimulants to sustain the organic forces in their struggle, and to favor elimination by the kidneys and other emunctories. The various diluents (lemonade, barley-water, effervescent drinks, plain water, etc.) which are so freely given, because so constantly craved, promote excretion by the kidneys. Milk is often prescribed *ad libitum* as the sole drink and nourishment; its diuretic properties are well known.—*Therap. Gazette*.—*Epitome of Medicine*.

COMBEMALE ON A CASE OF CHRONIC ANTIPYRINISM.—The patient was a single woman of thirty-eight, who complained of frequent and copious emesis of an acid, watery fluid, occurring generally after eating. She complained also of almost continuous eructations of a gas which left a sour taste in the mouth and a persistent burning sensation along the cesophagus. She had a short, dry cough. The patient's nutrition, of course, suffered, as she ate little because of the aggravation food produced. Insomnia was present at times, and sleep was broken by restlessness and dreams. The bowels were regular. The menstrual flow was irregular, lessened, and pale. There was an anæmic cardiac murmur. The entire abdomen was tender, particularly in the epigastric region. Her trouble was thought to be gastric ulcer, although cancer was considered possible. Four years before, the patient had suffered from an attack of acute polyarticular rheumatism, in which salicylate of soda failed, and antipyrin was substituted with a good result as far as sedation went. The patient acquired the antipyrin habit, however, and as a stimulant took daily from fifteen to thirty grains, and on frequent occasions double or treble that amount. With the aid of a potion containing

cocaine and antipyrin, gastric tolerance was established to such an extent that vomiting ceased, and two quarts of milk could be taken and retained. The general condition improved, of course, and in eight days sleep was nearly normal, and the patient promised to abandon the habit.—*Bull. Méd. du Nord*.—*Epitome of Medicine*.

QUESTIONABLE USES OF ARSENIC.—It is probably well known to all engaged in the practice of medicine or pharmacy that the custom of embalming bodies before burial is becoming more common. Frequently the operation of embalming consists merely in injecting some fluid into the cavities of the body: but often a more elaborate process is followed. In any case chemical substances are introduced into the body after death, and it sometimes happens that no little mischief is wrought in this way. The claim was at one time frequently made that it is possible to say of arsenic found in certain organs whether it was introduced into the body before or after death. This is true only to a limited extent, as it has been shown by careful experiments that arsenic injected into the stomach after death is found before long in the liver, brain, kidneys, and other organs. In other words, the *post mortem* diffusion of arsenic must be accepted as an established fact, and it cannot be assumed that the poison found in the brain, for instance, reached there during life. From this it is plain why the undertaker's practice is an objectionable one. He successfully covers up crime, making its certain detection impossible. To guard against danger in this direction, the use of solutions of mercury and arsenic compounds in the undertaker's shop should be prohibited or restricted by law.—*College and Clinical Record*.

COMMON SENSE IN MEDICINE.—A celebrated bishop, president of one of the most noted universities of this country, said to his class in divinity: "There are three things necessary for making a successful minister of the Gospel: first, a thorough, liberal education; second, the grace of God; third, common sense. The first may be obtained by earnest, diligent application to study; the second by prayerful intercession at the throne of grace, with a sincere desire for

purity of heart; but unless you have the third born in you, may the Lord have mercy on your souls and the souls of your congregation." While common sense is an absolute necessity for any profession or vocation, I know of no one where it is more necessary or important than in the study and practice of medicine. If I were asked to define the term common sense, it might be difficult; but it will be sufficient for our purpose, at the time, to say that it consists in applying rational, simple rules of construction to the various theories of medical science, adopting and practising what can be measured by such rules, and rejecting those that are at plain variance and antagonism with them.—S. C. Gordon, M.D., in *Boston Medical and Surgical Journal*.

THE OLD AND NEW IODINE BOTTLE.—Every gynecologist is well aware of how many bad words he is responsible for when the cork of his iodine bottle becomes extracted in his instrument case, destroying his satchel and rusting his fine instruments, or when it upsets on his patients' carpets, leaving its indelible stain as his unfortunate autograph. After trying all sorts of bottles and stoppers, I have found the following avoids all these annoying accidents: Fill the bottle selected with absorbent cotton; pour in the tincture iodine to complete saturation; then pour out all that will readily drain away. One now has plenty of iodine in a very safe form. Any application thrust into the cotton-filled bottle will be immediately saturated, for painting the vagina, or external work. Yet the bottle may be carried safely in satchel, or upset on the carpet, etc. I hope this method for a "new iodine bottle" may save the instruments of others, and be of as much convenience and saving to them as it has been to me. This plan may also be adapted to other medicines, as pyroligneous acid, carbolic acid, or any other material used for applications and liable to spill.—George E. Abbott, M.D., in *Med. Record*.

HÆMATOSALPINX.—*Centralblatt f. Gynecol.*, May, 1891.—With the increase of the operation for diseased tubes, cases have become more common in which, without any closure of the genital canal, the tube has been found distended with blood. This may result from retention of an ovum in the tube—tubal mole or tubal abor-

tion—or from hemorrhage into an already distended tube, or, finally, from bleeding into the tube, leading to its becoming distended. Only the last two kinds ought to be spoken of as hæmatosalpinx. Veit alludes to a case where a hæmatosalpinx was developed out of a hydrosalpinx by torsion of the tube. Other causes are new growths and wounds, but both are very rare. He considers the presence of villi as an important, but not the only, means of distinguishing between a tubal mole and a hæmatosalpinx proper. In a case of tubal mole, the fimbriated end of the tube is patent, whereas in all cases of extensive hæmatosalpinx the fimbriated extremity is closed. Veit considers the condition of the fimbriated end of the tube to be the decisive criterion between tubal mole and hæmatosalpinx.—*Medical Chronicle*

ANILINE CHLORIDE INJECTIONS FOR CARCINOMA, EPITHELIOMA, ETC.—Dr. C. E. Bruce is using (*South Med. Record*, Sept., 1891) injections of aniline chloride in cases of carcinoma and epithelioma in the Almshouse, Blackwell's Island, New York city, with very satisfactory results. One patient, with epithelioma of the tongue, infiltration of the sub-maxillary glands, and a fixed condition of the muscles of the jaw, so as to render mastication impossible, was placed upon injections of ten minims of a ten per cent. solution of aniline chloride; within three weeks the glandular infiltration subsided so that he was able to thoroughly masticate his food. The infiltration surrounding the epithelioma was diminished so that deglutition of solid food was not only possible, but even comfortable.

In a case of carcinoma of uterus, where the infiltration of the uterine tissue was great, and the os so swollen that it was hardly possible to get it within the opening of the bivalve speculum, within a month, under this treatment, the induration had been reduced to the size of a silver dollar; the general condition of the patient was good; she had increased in flesh and strength, and experienced no further pain or discomfort. Previous to going under treatment, she had been in the habit of passing great quantities of blood from the vagina, but this has given place to a thin, watery, colorless discharge. She now feels very comfortable, and is relieved from all her distressing symptoms.—*Virginia Medical Monthly*.

# THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, NOVEMBER 16, 1891.

## TREATMENT OF PHTHISIS.

The innumerable discussions on phthisis which have taken place during the last two years have done much to encourage us to work up the therapeutic aspects of the disease. We have learned that it has a specific cause, and we hoped for a time that the discoverer of the cause had given us a specific cure. What the future is going to bring forth with reference to the efficacy of the lately purified tuberculin, it would be difficult to surmise; but we are inclined to expect great things from it. Apart from this, however, we think a more hopeful feeling is springing up, and we are commencing to realize more fully that in a certain proportion of cases phthisis is a curable disease. We have no doubt that such is the case, and we believe that the proportion of these cures is rather large.

A very interesting discussion on the etiology and treatment of phthisis took place at the last meeting of the British Medical Association. We publish in this issue a portion of an interesting address by Dr. Thorowgood on the use of drugs in the treatment of the disease in its early stage, which will be found well worthy of careful consideration.

An interesting question frequently arises as to what we should advise for our patients whom we are sending away from home. In the early stages of phthisis a change of scene, with all it involves, frequently works wonders in the direction of a cure; and yet we are inclined to shrink from sending an invalid away from home to take his chances in hotels, boarding houses, or at health resorts, where there are no home com-

forts, and where the surroundings, from a sanitary point of view, may be about as bad as possible. We publish also in this number an abstract of a paper by Dr. Fite, of New York, on "Institutions for Consumptives," which will be found very interesting in this connection. There are few such institutions in North America, and the paper gives a brief description of these. We fancy, from all we have heard, that probably the "Winyah Sanitarium," at Ashville, N.C., is one of the most reliable of this class. We understand that the sanitary arrangements are complete, and the superintendent, who looks after the treatment of the patients, is a thoroughly competent physician—at least so we are told by men of standing in New York. Physicians who are at their wits' end to know what to do with their phthisical patients might do well to make enquiries as to this sanitarium, as well as the others which are mentioned by Dr. Fite.

## THE PAN-AMERICAN MEDICAL CONGRESS.

We are pleased to learn that the prospects for this congress, to which we have before alluded more than once, are very satisfactory with to its promoters, who are still working actively in its interests. The work of organization was completed at the recent meeting of the committee appointed for the purpose by the American Medical Association held in St. Louis on October 14, 15, and 16. It was decided that the congress will be held at Washington on the first Tuesday of October, 1893. The chief officers elected were: Dr. William Pepper, of Philadelphia, President; and Dr. Chas. A. L. Reed, of Cincinnati, General Secretary.

We regret to learn that the harmony of the meeting of the committee was, to some extent, marred by a rather unpleasant occurrence. The American Association appointed a surgeon to represent the navy on the committee. The gentleman designated was unable to attend, and the Surgeon-General of the navy named another to take his place, but when the substitute arrived he was not allowed to act on the committee. We can scarcely see how the committee, under the circumstances, were in a position to recognize the legality of such an appointment, and we cannot, therefore, refuse to sustain their action; but we regret the necessity for the



practical exclusion of the naval representative from their councils.

It is well-known that to Dr. Reed is due the credit of having conceived the idea of such a congress. As the chairman of the temporary committee for organization, he has shown great ability and wondrous energy, and we are glad to see that he has accepted the important office of General Secretary on the permanent committee. Dr. Pepper is well-known at home and abroad as a man of strength and influence, and has shown himself on several occasions to be possessed of great executive ability. We believe that his election to the important position of president was very fortunate in all respects. As to Canada's position in the congress, we will have something to say shortly.

#### LABORATORY COURSE IN BACTERIOLOGY.

Professor Ramsay Wright proposes to give a practical course of instruction in bacteriology in the Biological Laboratory of the University of Toronto probably during next May. The course, it is expected, will last four weeks, during which Professor Wright will lecture from nine to ten each day on the subject of the work to be performed in the laboratory during the rest of the day (from ten till four) under his supervision. The preliminary outlay necessary to adapt his laboratory will be considerable, and a fee of \$25 will be charged to assist in paying the expenses of the University in the undertaking, although the learned professor will receive no remuneration for this large amount of extra work so kindly volunteered in the interests of science.

Professor Wright, in making his preparations, would like to have some idea of the number who propose to take the course, and would be pleased to hear as soon as possible from such parties. If any further particulars are required as to the nature of the course, they may be obtained by communicating with Professor Wright. The course will be interesting and useful, especially for medical health officers, members of our graduating classes, and graduates who wish to learn both the science and art of medicine, and for all who intend to devote themselves especially to science. We may say that the fee of

\$25 will cover all instruction given, the use of microscope, and all material required. We hope this highly generous and disinterested offer on the part of Prof. Wright will receive the appreciation and encouragement it so richly deserves.

#### THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The United States is a great country for medical societies—probably the greatest in the world. This is a broad and somewhat indefinite statement, but we do not at the present time propose to occupy much space in attempting to make it more definite. We may say, however, in a general way, that there are organizations in many states, and occasionally groups of states, such as we in Canada know nothing about. In many such the most perfect parts of the organizations are the county societies, which work individually and collectively in the interests of the larger state associations. Among the most prosperous of American societies is the one known as the Mississippi Valley Medical Association, which held its seventeenth annual meeting in St. Louis on Oct. 14, 15, and 16, 1891. There were, according to the *Buffalo and Surgical Journal*, about three hundred present, and the meeting was highly successful from both a social and a scientific point of view. The next meeting will be held in Cincinnati in October, 1892, under the presidency of Dr. Chas. A. L. Reed of that city.

#### Meeting of Medical Societies.

##### TORONTO MEDICAL SOCIETY.

October 8th, 1891.

The president, Dr. A. A. Macdonald, in the chair.

##### TUMOR OF SPINAL CORD.

Dr. J. E. Graham read a paper on a case of tumor of the spinal cord.

A.B., barber, married, æt. 41, Canadian, four years ago had two attacks of pleurisy, from which he completely recovered. Twelve years ago he drank to excess, and continued to do so for four years, during which time he was often exposed to cold. For the past six years he has been temperate and worked steadily. No his-

tory of syphilis. Some years ago he fell, striking on his back, and was unable to work for three weeks. He was in a rain storm for some hours four years ago, followed by a chill. Shortly afterwards he had a pain over the liver and running into the spine. A tingling sensation running upwards from the toe was next noticed. Gradually there became a difficulty in walking, occasional vertigo, ending in complete motor paralysis and tactile anæsthesia of the lower limbs. Whilst the attack was coming on, he noticed that movement of the spine caused pain. There was obstinate constipation, stools passed without his knowledge, sphincter reflex normal, bladder emptied itself automatically, complete anæsthesia and analgesia below a line drawn from the second lumbar vertebra to the iliac crest. Plantar and cremasteric reflexes absent; patellar tendon reflex increased; ankle clonus. There were a great many neuro-fibromata scattered over the patient's body. The slow progress of the case and the presence of these cutaneous tumors made it probable that the spinal growth was of the same nature. An interesting fact was that while the surrounding parts were anæsthetic, sensation remained in the left testicle. A diagnosis of tumor at the eleventh or twelfth dorsal vertebra was confirmed by an operation. Unfortunately, the patient succumbed.

Dr. Peters, who had assisted at the operation, said that there was a very striking and instructive condition of the ano-vesical apparatus. The urine was passed automatically every three or four hours. No sensation of the fullness of the bladder preceded the micturition, and the urine escaped without the will or knowledge of the patient. Nevertheless, when a certain amount of urine had collected, a normal act of micturition took place. A similar condition was present in regard to defecation. The finger placed in the anus, was grasped, though not very forcibly, by the sphincter, and at more or less regular intervals normal defecation took place, of which he was aware only through the sense of smell. It is evident, therefore, that the ano-vesical centres were in a condition of functional health. Further evidence of the healthy condition of the cord below the obstruction was the fact that the muscles and skin were nourished and healthy. There were no bed-sores, and

there were occasional involuntary twitchings in the muscles, which latter also responded to the electric current. It was clear that there was a localized blocking of the transmission of impulses, ascending and descending, between the brain and the lower part of the spinal cord. The preservation of sensation in the left testicle was probably due to the influence of the spermatic plexus, which leaves the cord at the point of compression.

*Operation:* After thorough disinfection of the parts, the position of the vertebral spines was marked with an aniline pencil, and Abbe's incision was made to the right of the line of the spines extending from seventh dorsal to first lumbar vertebra. The bases of the spines were snipped off at their junction with the laminae, the muscles were raised from the laminae on the right side, and the whole drawn with a retractor to the right. Thus was laid bare the whole breadth of both laminae from the eighth to the twelfth dorsal vertebra. These were then divided at each side, close to the articular process, and raised up. Neural arches from ninth to eleventh were removed, laying bare the dura. Hemorrhage was checked by pressure and hot water.

The dura completely filled the neural canal, whilst beneath it could be seen the neoplasm, of a dark purplish red color, very much like that of old clotted blood. The dura having been opened, a portion of the tumor was removed, and the cord was then seen to be flattened against the left wall of the canal. Though flattened, it felt and looked normal. A portion of the dura to which the tumor was adherent was clipped away. The tumor was found to surround the posterior right and anterior surfaces of the cord from ninth to twelfth dorsal vertebrae. When it was all removed, the cord could be seen to move up and down with the respiratory movements. Patient died on third day after the operation. He claimed that he felt an enema which was given him, but this is very doubtful.

Dr. Acheson reported that microscopic examination showed the tumor to be an angio-fibroma, the periphery giving signs of inflammatory infiltration. There are seen in the sections amorphous granules of a sepia brown color. These are found in or near vessels, and are

probably melanin; for melanotic degeneration is not uncommon in fibromata. These granules might possibly be calcareous.

TRANSACTIONS OF THE FOURTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Held in New York City, September 17th, 18th, and 19th, 1891, at the Academy of Medicine.*

(Abstract.)

FIRST DAY—MORNING SESSION.

The President, Dr. A. H. Wright, of Toronto, in the chair.

An address of welcome was delivered by Dr. Robert T. Morris, of New York, and the response was made by Dr. Geo. H. Rohé, Vice-President, of Baltimore.

Dr. Aug. P. Clarke, of Cambridge, Mass., read an essay on

POST-PARTUM HEMORRHAGE—ITS ETIOLOGY AND MANAGEMENT.

After an exhaustive and scholarly review of the conditions leading to post-partum bleeding, including uterine atony and hour-glass contraction, disproportionate growth of the uterine vessels, ectasis of the fundal vessels, uterine oedema, placental abnormalities, fibroma or other morbid growths, lacerations of uterus, vagina, or vulva, etc., he discussed the treatment. Anesthesia is of incalculable benefit in lessening many of the dangers incident to parturition, being particularly useful in cases of uterine inertia dependent on the exhaustion of the system generally. In cases of advanced or serious renal affections, chloroform may be the safer of the two anesthetics. Pressure or support over the fundal uterine segment as the child recedes from it will aid in keeping up continuous or regular uterine contraction, and thus lessen the risks of the occurrence of severe hemorrhages. The administration of ergotin or ergotin will assist in re-establishing normal contraction. When used hypodermically, its physiological and therapeutical action is often speedily and permanently manifested. It is in the milder class of cases that its use will be of the most material service. In cases in which hemorrhage is profuse, intra-uterine injections will be of great advantage. In women of full or plethoric habit, cold water may be employed; in those who suffer from nervous affections, water from 115° F. to 125° F. is to be preferred. Doubtless when hemorrhage is arrested by hot water it is owing to the formation of thrombi more or less extended into the vascular tissues. The employment of cold has a reflex action—it gives a toning effect to all the tissues, it facilitates the constriction of the muscular coat of the dilated vessels. Caffeine used hypodermically is of benefit. The application of some form of electricity will aid in some measure in promoting contraction of the uterine muscular fibres. In cases in which hemorrhage is anticipated, the early administration of quinine may in large measure serve to keep the hemorrhage under control. The occurrence of certain pains may lead

us to anticipate post-partum hemorrhage. If the pains are acute and brisk, with abrupt endings, and followed by unusually long pauses, we may infer that there is a deficiency of nerve force. This may result in atony of the muscular structures, and in failure to effect constriction of the uterus and closure of the utero-placental vessels. In cases in which hemorrhage proceeds from the lower section of the uterus or from the upper portion of the cervix, the application of iodoform wool and gauze and of styptics, or of iodine, will be of service. The author has great confidence in the employment of nitrite of amyl; it is an arterial and cardiac stimulant of the most extraordinary power. The employment of intravenous injections, and the dangers attending their use, are matters for determination in each individual case. The employment of alcoholic saline intravenous injections for their dynamic or tension effect will be most beneficial. The author's later experience favors the adoption of the method of hypodermic injection or transfusion of spirituous saline solutions. This method is more convenient, is safer, and is more likely to be followed with favorable results. Other methods for controlling hemorrhage and for preventing collapse are referred to. Compression of the abdominal aorta should sometimes be tried. This may, in some measure, enable the medical attendant to get control over the hemorrhage when all other means have failed. This procedure has been approved by such great authorities as Barnes, Churchill, and Simpson.

Dr. Robert T. Morris, of New York, read a paper on

A NEW METHOD OF PALPATING THE KIDNEY.

Dr. W. J. Asdale, of Pittsburg, read a paper on  
REMOVAL OF THE KIDNEY IN DISEASE, WITH CASES.

Before reliable conclusions and methods can be established and this most formidable surgical procedure can be made safe, if ever, a familiar acquaintance with all that has been done in the sphere of renal surgery must be secured and the details of a considerable number of cases must be carefully studied, that questions of both physiological and pathological import may be determined. Any contribution, although stating no new facts, may be of present value by corroboration and emphasis of points previously taken.

The following points were accentuated by the histories of a number of cases and operations:

First, in respect to the symptomatology of malignant disease. It is often insidious in its attack; pain may be absent or insignificant in amount. Early copious hemorrhages, without any marked previous manifestations of concern, are most suggestive of structural change of malign character.

Second, in regard to method of operation. The choice will be governed not more by preference than by necessity. We are reminded, however, of the facility of approach by the lateral abdominal method of incision, and of the ease with which large solid growths may be taken from the renal site. Again, in all cases it is of primal importance to possess the advantage of direct palpation of the other kidney before nephrectomy; this manœuvre the operation by primary anterior incision makes easy.

The antero-lateral incision provides the minimum



of injury to the peritoneum and the strongest assurance that soiling of the peritoneal surfaces will be avoided. Drainage, the importance of which cannot be overestimated, can be most efficiently applied after the lateral abdominal operation. Shock, even to the aged and feeble, does not of necessity inure to forbid a carefully conducted operation for removal of the kidney. Finally, the importance of early diagnosis and the futility of late operations, in malignant disease especially, are clear.

Dr. A. Vander Veer, of Albany.—We owe Dr. Asdale our thanks and gratitude for his thorough and candid manner of reporting his cases; there was a fatality present that no operator can avoid—that is, an advanced condition of disease. Malignant disease of itself is always a dangerous condition for us to attack, and when advanced, as in these two cases, we have heavy odds against us. The consensus of opinion is that chloroform is the safest anesthetic to use in surgical kidney. In malignant disease let us operate early—as early as possible.

Dr. C. A. L. Reed, of Cincinnati.—The question of the treatment of the pedicle in nephrectomy will remain a serious one as long as we have kidneys to remove. We all recognize the treacherous friability of the renal vein. To avoid the unhappy and almost necessarily fatal accident of cutting it by a tight ligature, he had put around this vessel the protecting influence of its neighboring structures, and had ligated the pedicle in one mass. He endeavored, in effecting the division, to leave something of a button to make the ligature secure. So far he had not been embarrassed with secondary hemorrhage. The amount of force that is required to control hemorrhage from the renal artery need not be so great as to cut the walls of the neighboring vein, providing we have left a sufficient button to prevent slipping of the pedicle under the very considerable circulatory pressure which is brought to bear upon it through the few hours immediately succeeding the operation. Unless there be surgical conditions of the ureter itself demanding special treatment, there is no need of treating it otherwise than you would the circulatory vessels.

Dr. Kellogg, of Battle Creek, Michigan.—The question which should be raised in this discussion is, whether it is better to remove the kidney, or whether it is better to perform the operation of nephrotomy. If we drain the kidney in case of suppurating kidney and in case of malignant disease of the kidney, the patient will likely recover. Mr. Tait never removes the kidney. If any operation at all was considered desirable, he performed the operation of nephrotomy through the lumbar region, and drained the kidney. K. made it a practice to examine the position of the kidneys and all abdominal organs in every case of pelvic disease of women. In a very large proportion of cases the right kidney especially is prolapsed and movable. In thirty per cent. of all cases in which there is displacement of the pelvic organs there is also displacement of the kidneys. His method has been to first examine the patient on the back, the shoulders elevated, and legs flexed forward so as to relax the abdominal muscles as much as possible; placing one hand at the back and the other hand in front. In case he fails, he has the patient rise on the feet and rest against the end of the table: then, on bending forward, the abdominal muscles are completely relaxed, the kidney is dragged down,

and when the patient takes a deep breath it is easy to seize it, if it is at all prolapsed.

Dr. J. H. Carstens, of Detroit.—I am much interested in the diagnostic points made. In all diseases of the kidney there is great danger in using ether. In all cases it is advisable to use chloroform. Looking back upon cases which have died within twenty-four to forty-eight hours, reported dead from shock, I am confident now that they died from the ether. Even chloroform will produce congestion of the kidney, but not to the extent ether does.

Dr. Henry T. Machell, of Toronto, asked for points which would enable us to recognize the kidney after the abdomen is opened. He had seen in more than one instance a considerable loss of time in recognizing and determining what was or what was not the kidney.

Dr. Morris, of New York, said that as to the question of how we can determine whether we have kidney or some other organ, he had only once been in the position where he could not tell from the character of the capsule and the tissue of the organ whether he had kidney, liver, some morbid growth, or some other organ. In that case he had colloid carcinoma: he found the aorta, then the renal artery and traced that, and determined from the relative position of the renal artery that the kidney was beneath this mass.

Dr. L. S. McMurtry, of Louisville, read a paper on

#### INTRA-UTERINE IRRIGATION AFTER LABOR.

Dr. W. W. Potter, of Buffalo.—The distinguished Fellow from Kentucky sounded the keynote of this whole question of intra-uterine irrigation after labor when he said that the time for commencement of the treatment was at the time when it became essential—that is, at the initial symptoms of infection. If we could only always determine when that initial symptom presented, I have no doubt that this method would result in the saving of life and in the prevention of prolonged sickness. There are ways in which infection gets to the vital organism insidiously, and we only know that by watching the symptoms which it produces; hence the importance attaching to the puerperal woman in her attendant paying more attention to a labor—not treating it lightly, not going to it and hurrying away in a few minutes after delivery, and saying, "I will come back when you need me." but she is to be watched with all care, even after simple labor, for a few days, until all danger of that initial symptom has passed away. It is important to emphasize all that, for the obstetricians of to-day must certainly recognize the fact that they are occupying a more responsible place than ever. There is more light upon the subject than formerly.

Dr. E. E. Montgomery, of Philadelphia.—This subject is one of vital interest, for upon the meeting and subduing of the germs at an early stage is dependent the future comfort, health, and possibly life of the individual. He fully indorsed what was said as to the importance of early intra-uterine irrigation where there is the least indication of septic infection. We have in the cavity of the uterus a large absorbing surface; a surface that is covered with debris, a surface in which, through the heat of the body and the character of the secretions, germs multiply with great rapidity, are readily

taken up and carried through the vessels, carried by the continuous action of the mucous membrane into the tubes, and we have secondary infection not only of the tubes and ovaries, but we have systemic infection through the absorption into the system. It is important to early render this surface sterile and prevent the development of the disease. In such cases he would advocate, in addition to irrigation, the use of the curette, the scraping away and removal of the infected debris, and, after irrigation with a chemical solution, the introduction of a twist of gauze to the fundus, and in this way make sure that the subsequent drainage was perfect and complete.

Dr. Geo. H. Rohé, of Baltimore.—It is my conviction, based upon observation and some personal experience, that the practitioner who is in doubt about antisepticism in obstetrics will lose nearly as many patients from septic troubles as one who misbelieves in that method. If there is any one thing necessary in practising aseptic obstetrics, it is a firm belief that it is absolutely necessary in every case. Consequently it has been well said that the time to begin treating sepsis in a lying-in woman is before she is septic. But even after the septic condition has been established, a thorough carrying out of the aseptic practice will result in success in a large majority of cases. Any one who has ever seen the interior of the uterus of a woman who has died of septic infection after delivery will appreciate the importance of more than superficial measures—not merely an injection now and then, even thoroughly made, but also the use of some chemical disinfectant which will inhibit the rapid multiplication of the germs.

Dr. J. H. Carstens, of Detroit.—It has been pretty well settled that normal cases had better be let alone; but where symptoms develop it is well to start irrigation very early. There are cases where the temperature rises up to  $103^{\circ}$  or  $104^{\circ}$  or  $105^{\circ}$ , where the irrigation has no effect at all, even if you irrigate every three hours, or two hours, or every hour. There is no debris there, nothing wrong with the uterus, the physician or midwife who attended the wound was aseptic, and still that woman has puerperal fever. These are cases of auto-infection. We know that when women have a latent disease of the tubes, be it tubercular, gonorrhœal, or an ordinary pyosalpinx, the act of parturition will cause it to break out in full force, or will cause a rupture of the tube, which will allow pus to run down into the uterus and there set up a violent septic poisoning. These are the cases which need laparotomy. We ought to have it before our minds that there are cases which are due to a poison being introduced from without, by the physician or nurse, and there are other cases where the cause is within the patient and may have been lying latent for years, simply needing something to cause the explosion.

Dr. Cushing, of Boston, in confirmation of what the last speaker said, reported a case that apparently sprang from tubal infection.

Dr. A. H. Wright, of Toronto.—I indorse the statements expressed in the paper. The subject is of the utmost importance. Nothing in the art of obstetrics has given me more anxious thought than this question of antiseptics. It is my practice in the lying-in hospital and in private practice to use intra-uterine irrigation very seldom. In itself it is

an evil capable of doing a certain amount of harm. When the necessity arises I certainly do not scruple at once to go on with irrigation in the interior of the uterus. As far as I have seen irrigation carried on by general practitioners, I have been sometimes rather horrified at the miserably careless and indifferent way in which it was done. It is one of the most difficult things to teach hospital students how to do this properly.

Dr. J. F. W. Ross, of Toronto.—I do not think ordinary water used as an injection is as good as some antiseptic solution. My experience with intra-uterine irrigation has not been as favorable as I could wish. Two cases of puerperal septic trouble coming under my notice within the last two years have been treated by packing the uterine cavity with iodoform gauze through a speculum, and in this way attempting to subdue the formation of the poisonous ptomaines in the cavity.

Dr. Kellogg, of Battle Creek, said there was another use for irrigation which had not been mentioned. In a case in which the temperature rose to  $104\frac{1}{2}^{\circ}$  irrigation was employed, but did no good. By the application of a hot douche,  $140^{\circ}$ , the uterus was made to contract. The next morning the temperature was normal, and did not rise again. His plan of using the douche is to introduce a large drainage tube, then a small catheter through the drainage tube, and then to use water at a temperature of  $130^{\circ}$ . Lower temperature is often the reason for failure. Warm water relaxes, hot water contracts. Very hot water is efficient as a germicide. The uterus will bear a still higher temperature.

Dr. McMurtry, closing the discussion.—I feel very grateful to the Fellows for the very cordial manner in which they have received the suggestions I intended to convey. The purpose of the paper was not to discuss the routine use of intra-uterine irrigation after labor, or to deal with the prophylaxis of puerperal sepsis, but simply to emphasize the point that this very valuable method, which we can institute in the very initial stages of sepsis, is not generally appreciated by the great body of the profession; that the golden moment when it can be most efficient is lost by the administration of a hypodermic dose of morphia, under the mistaken idea that the initial stage of sepsis is a little milk fever or malaria, or some little disturbance brought on by the process of labor. Dr. Carstens, of Detroit, has alluded to a class of cases which should not be considered in connection with this treatment at all—that is, the fulminating cases, cases of sapremia, where in a few hours the system is thoroughly saturated with the poison; cases that nothing in the world can resist. Even in the initial stages of these cases this treatment can do no harm. The cases alluded to by Dr. Cushing are scarcely within the scope of the discussion. There is no such thing as auto-infection of a woman after labor. Cases of tubal disease belong to that class where the disease was present before labor began. They may have been mechanically affected by the process of labor and the muscular contractions, so as to complicate the case. They are complications of the puerperal condition. Moreover, the treatment of those cases by laparotomy, evacuation, removal of the disintegrating structures, drainage, and irrigation, is but an application from above of the same principle of treatment.



## FIRST DAY—AFTERNOON SESSION.

Dr. Llewellyn Eliot, of Washington, D.C., read a paper,

## IS A CHILD VIABLE AT SIX AND A HALF MONTHS?

He referred to the French law, which excludes the possibility of the viability of a child born before the sixth month (one hundred and eighty days), as unjust, since cases have occurred where children born before that time have been reared and lived for many years. He denied the plea of superfetation, in these cases, as untenable. A table comprising cases in which the period of utero-gestation extended from the fourth month (one hundred and twenty days) to the termination of the seventh month supplements the paper. Dr. Eliot related the histories of three cases of early viability, one at six months and eleven days, one at seven months and one day, and one at seven and a half months, and drew the following conclusions: 1. A child under peculiar circumstances of development is viable at four months. 2. A child is viable at six and a half months. 3. The moral character of the parents has nothing to do with the birth of a premature child, when considered from a standpoint of constitutional development. 4. Obstetricians should strive to convince jurists of these facts.

Dr. J. H. Carstens, of Detroit.—The paper of Dr. Eliot is one of great importance from a medico-legal standpoint. I would hesitate to say that a child was five and a half or six months, or six and a half months. I do not see how it is possible for us to say how long a child has been in utero. A woman may have a discharge of blood similar to menstruation when she is already pregnant for a month. In the present state of our knowledge it is clearly impossible to say how old that child is, unless you have two absolute factors: that you have the woman menstruate at a certain date, and that coition was had only at one certain date. You cannot even judge from the time the woman feels life, because that varies.

Dr. Eliot, of Washington, D.C., closing the discussion, said that in using the incubator it was necessary to regulate the amount of moisture as well as heat. If we have it too dry, we kill the child; if we have it too hot, we kill the child.

Dr. E. E. Montgomery, of Philadelphia, read a paper on

## THE APPLICATION OF SACRAL RESECTION TO GYNECOLOGICAL WORK,

in which he advocated the procedure in all cases in which uterus and rectum were both involved with malignant disease, and in cases of uterine cancer where the uterus was enlarged or where the vagina was small and the case complicated by disease of tubes and ovaries, causing extensive adhesions.

He places the patient upon the left side or semi-prone position, and makes a bow-shaped incision from the right sacro-iliac synchondrosis across the median line to a little beyond the apex of the coccyx, enucleates the latter bone, separates ligaments and muscles from the right side of the sacrum, and, beginning just below the third posterior sacral foramen, cuts off with chain saw or bone pliers the right ala of the sacrum.

In operations for removal of the uterus and its appendages, the rectum is pushed to the left and

the peritoneum opened. This brings the operator upon the posterior surface of the uterus, when the broad ligaments may be seized by hemostats, raised up, the broad ligaments ligated, and the uterus removed. After removal of the organ the peritoneal surfaces may be stitched over the vagina and the posterior peritoneal opening also closed. He does not prefer it to vaginal hysterectomy where conditions are favorable for the latter. He reported two cases in which he had done the operation. One for cancer of the rectum and uterus, in which three inches of the rectum and uterus and appendages were removed, and the calibre of the gut restored. A large collection of feces pushed up the lower segment of the rectum, requiring the wound to be reopened and a secondary operation four weeks later. The second operation was done for cancer of the uterus complicated by tubal and ovarian disease with adhesions. Both patients recovered, and no inconvenience in locomotion was experienced.

Dr. C. A. L. Reed, of Cincinnati.—This operation attracted my attention when the first publication of it appeared. Like many of the other operations, particularly those that involve the invasion of structures that we have not been in the habit of treating surgically, it appears to be more formidable than perhaps it really is. In an effort to treat malignant disease involving the middle segment of the rectum, this operation would be demanded and would be justifiable, for we are justified, perhaps, in doing almost anything for the relief of malignant cases, particularly those involving important tissues, such as the rectum and uterus; but if we can bring the maximum of relief with the minimum of risk, that is the line we ought to follow. There is one question which cannot be answered as yet from any ascertained results, and that is with reference to the remote influence of this operation. The removal of the coccyx and the removal of the lower segments of the sacrum must of necessity deprive the lower portion of the pelvis of an important basis of support; and what is the condition of our patients with regard to the support of the superimposed viscera following the operation, after a considerable length of time? Dr. Montgomery's cases are yet too recent to afford an answer to this question. While the primary results have been very good, it would have been vastly better to have relieved his patient by primary colotomy; but if this operation will bring the same amount of relief with as little risk of primary mortality, and at the same time insure the patient voluntary control of her fecal discharge, by all manner of means let us encourage it.

Dr. H. O. Marcy, of Boston.—We ought to lay emphasis upon primary colotomy. I mention it simply because I lost two patients where the result might have been entirely different if I had done colotomy first. This was in cancer of the rectum. When we recollect that the intestine is very fully distended with gases and feces, the pressure upon our sutures is something enormous. Primary colotomy gives us that all-important factor of surgical rest of the tissues with a far better promise of success.

Dr. H. T. Hanks, of New York, thought that this operation could be recommended in most cases of chronic pelvic abscess where a rupture has taken place into either the vagina or rectum, and where the tissue underneath the broad ligament is honey-



combed. He was interested from the fact that he had had one or two cases where he probably would have succeeded better by doing this operation. It is a difficult matter to cut through the abdominal wall into the true pelvis and find out the exact condition. Though we very quickly get a view of the parts, we cannot manipulate easily.

Dr. W. H. Wathen, of Louisville, congratulated Dr. Montgomery upon his courage, his tact, and his excellent technique.

Dr. A. Vander Veer, of Albany.—I would not be willing to abandon vaginal hysterectomy for removal of the uterus and ovaries. The technique of vaginal hysterectomy is so perfect it is one of the most brilliant operations we have to perform at the present time, and the results are satisfactory. In regard to colotomy, I never had a patient who was thoroughly satisfied with the result of the operation. All were dissatisfied with the fecal discharge. But in the five or six cases in which I have operated for the removal of the lower segment of the rectum, it mattered not if there was some leakage, some trouble in keeping a pad there and receiving the feces; they always said, "Doctor, it comes out at the right place. It feels more natural."

Dr. Ap Morgan Vance, of Louisville.—The performance of primary colotomy would bring about a difficulty from the fact that a good deal of the gut was to be removed; and if there is cancer there, the more removed the better. If it was tied, anchored, at the point of ordinary colotomy, we would have difficulty in bringing it down to get approximation.

Dr. J. F. W. Ross, of Toronto, read a paper entitled

#### HOW SHOULD WE PROCEED WHEN ABDOMINAL TUMORS ARE COMPLICATED BY PREGNANCY?

He emphasized the point that there was nothing of malpractice in the opening of an abdomen during the existence of a concealed pregnancy, before proceeding to discuss cases in which pregnancy had been recognized. Cases of ovarian tumor and fibroid tumor of the uterus were reported, and a request was made for reports from members of the association, so that a foundation might be laid on which to build up a few fixed rules for future guidance. Ovarian and myomatous tumors were the only two forms taken into consideration.

*Ovarian Tumors.*—He said that the methods of treatment to be discussed were:

1. To allow the pregnancy to go to full term, or until the uterus throws off its product.

2. Puncture of the cyst until delivery is completed.

3. Induction of premature labor.

4. Ovariectomy—the uterus left to abort or go to term.

5. Ovariectomy—the uterus emptied of its contents by incision.

6. Ovariectomy and abdominal hysterectomy.

The author advocated early ovariectomy, but supported cyst puncture in certain favorable cases, if the patients objected to other operation or wished to have a living child. If at any time bad symptoms arose, he insisted on immediate abdominal section.

In advanced cases, where injury or much handling of the uterus is unavoidable, the organ should

be emptied to forestall the almost inevitable abortion or premature labor.

*Myomatous Tumors.*—1. Induction of premature labor.

2. Early myotomy or abdominal hysterectomy.

3. Late hysterectomy or Cæsarean section.

4. Tentative measures, as:

- (a) Enucleation of cervical tumor to permit labor completion.

- (b) Enucleation of a sloughing tumor following labor.

- (c) Abdominal hysterectomy for a sloughing tumor or uncontrollable hemorrhage following labor.

- (d) Abdominal hysterectomy for septic infection from retention of discharges in the non-contractile uterus.

- (e) Abdominal hysterectomy or Cæsarean section to end a labor that will require long forceps, version, or craniotomy.

He finally concluded that the tentative measures were the best.

Dr. H. T. Hanks, of New York.—I have been interested for many years in the subject of uterine and ovarian tumors. We not only want to consider the patient but the surroundings, and when you know that you have got a unilocular cyst, that you can tap and remove the fluid and the patient can go on to term, or at least to eight and a half months, you are justified in doing it. But if the pregnancy is complicated with fibroid tumors, the case is different. They grow very rapidly from the first month up to the fifth or sixth month, but do not from the seventh to the ninth month. If the tumor is situated in the cervix you should enucleate it, because you cannot deliver through a cervix of which two-thirds is a fibroid. If you cannot do that, you are justified in producing premature labor or an abortion at the second or third month. If the tumor is the size of your fist, and you can push the cervix above the brim, and you have two-thirds of the cervical tissue healthy, you are justified in delaying. If the tumor is above the middle zone, the child can be delivered quite easily at term.

Dr. A. Vander Veer, of Albany.—The difficulty of diagnosis in a case of fibroid of the uterus or ovarian tumor is one of the problems of surgery. The subject is being handled with much greater clearness and more satisfaction, but it is essential to make a diagnosis, and in making the diagnosis we have very little that helps us in the history given by the patient. A condition which Dr. Ross did not touch upon is this, that in most cases where a patient who has a uterine fibroid becomes pregnant the tumor will take on a certain amount of growth, more in some cases than others. Occasionally it undergoes a sarcomatous change. Again, a patient may have a fibroid, go through pregnancy and a safe delivery, after which the fibroid will disappear. The medico-legal point of this question has been touched upon by two or three of the decisions that have occurred in court. We should be thoroughly united and thorough in our emphasis that in these cases the fibroid does sometimes disappear under the influence of pregnancy. In the treatment of ovarian tumors coincident with pregnancy, we should tap and carry the patient along as near as possible to the full time.

Dr. I. H. Cameron, of Toronto.—I am strongly in accord with the opinions expressed that no

general rules can be laid down for our guidance in any case. Every case, as Dr. Hanks has said, must be treated on its own merits. A sharp distinction should be made between tumors involving the uterus and those involving the ovaries. As has been said, the position of the fibroid tumor makes all the difference in the world. If it be clear that from the position of the tumor it will not interfere with delivery, it may be laid down as a general rule that it should not be touched before gestation is complete. Of course there may be risks of inflammation or malignant disintegration. I would like to enter my protest against tapping a unilocular cyst as a palliative measure. Twice in the last week I have had occasion to witness the very great danger of tapping.

Dr. H. O. Marcy, of Boston, said that he agreed with Dr. Cameron. He supposed tapping under these circumstances was out of the question. He reported a case showing its danger.

Dr. W. W. Potter, of Buffalo, reported a case of successful operation for removal of the tumor during pregnancy.

Dr. H. O. Marcy, of Boston, asked what was the condition of the veins.

Dr. Potter replied that they were highly congested. He believed that it was a case where tapping would have been very bad practice. His experience and that of others led him to believe that tapping should never be employed; if anything was done it should be through an incision.

Dr. J. H. Carstens, of Detroit.—I am inclined to think that because of the peculiar blood changes union takes place better during pregnancy than at any other time. I wish emphatically to protest against the tapping of tumors during pregnancy. Cases of ovarian tumor, no matter what kind they might be, occurring during pregnancy, ought to be operated upon. In case of fibroid you have to judge of each individual case yourself.

Dr. A. Vander Veer, of Albany, said he did not suppose there was any man in the State of New York who had in his teachings emphasized more this point in reference to tapping in the case of an ovarian tumor than he.—*New York Journal of Obstetrics*.

## Pathology.

### THE PROGNOSTIC SIGNIFICANCE OF THE TUBERCLE BACILLUS.

(Centralb. für Bakter. u. Parasit., taken from *Dtsch. Med. Wochenschr.*, 1891, No. 4.)

Von Brunn, in speaking of the prognosis in cases of pulmonary phthisis, gives it as his opinion that it is preposterous to found an absolutely bad prognosis in any single case upon the finding of the tubercle bacillus. Kurlow has shown by inoculations in guinea pigs that the colonies of tubercle bacilli found in the chalky nodules and cicatrices in the apices of the lungs of dead people, who, during life, were always looked upon as examples of cured

phthisis, can remain isolated and completely lose their virulence. These investigations speak in favor of Buchner's supposition that the body seeks to defend itself against the germs which have penetrated it, in that it builds up a wall of leucocytes against them by means of the inflammatory reaction, and that as a general rule this wall renders it very difficult for bacteria to spread, and that finally they undergo retrograde changes and are destroyed, only the scar tissue or chalky nodules remaining. According to Brunn's idea, this favorable result is brought about only when *few* bacilli make their way into the lungs; on the other hand, if the germs enter the respiratory tract in greater numbers, so much the easier will it be for them to break through the wall of leucocytes and infect wider areas of lung tissue, or even light up a general tuberculosis. The appearance, then, of great numbers of tubercle bacilli in the sputa will render the prognosis somewhat more unfavorable. By way of an appendix, Von Brunn speaks of the connection of rapid aggravation in tubercular processes of the lungs with the operation for rectal fistula. Colonies of latent bacilli are set free by means of this operation, that is, freed from the leucocyte-containing wall; they then make their way into lymph blood vessels and are enabled to infect organs in distant parts of the body. In like manner, he explains such occurrences after operation upon fungous joints or scrofulous glands.

J. C.

## Book Reviews.

*Annual of the Universal Medical Sciences.* A yearly report of the progress of the general sanitary sciences throughout the world. Edited by Charles E. Sajous, M.D., and seventy associate editors. F. A. Davis, publisher, Philadelphia, New York, Chicago, Atlanta, and London.

This is the first volume of the fourth series of the Annual, which has become very popular with the profession of Canada. The contents are: Diseases of the Lungs and Pleura, Whittaker; Diseases of the Heart and Blood Vessels, Whittier; Diseases of the Mouth, Stomach, Pancreas, and Liver, Griffith; Diseases of the Intestines and Peritoneum, Johnston; Diseases of the Digestive Organs in Children, Holt and Crandill;

Animal Parasites and their effects, Leidy; Urinalysis and Diabetes, A. J. Smith; Scarlet Fever, Measles, and Rotheln, Starr and Powell; Diphtheria and Croup, Lewis Smith; Rheumatism and Gout, Davis; Diseases of the Kidneys, Bladder, and Supra-renal Capsules, A. J. Smith.

*Stories of a Country Doctor.* By Willis P. King, M.D., First Vice-President of American Medical Association, Ex-President of Missouri State Medical Association; formerly Lecturer on Diseases of Women in the Medical Department of the Missouri State University; Professor of Diseases of Women, University of Kansas City, etc. Philadelphia: Hummel & Parmele, publishers.

This book presents no evidences of extra culture, neither has it any special literary merits; but it contains a number of reminiscences of a country practitioner which are not only readable, but quite interesting, and frequently very amusing. The author intimates that he desires to make something out of the enterprise; so our readers may assist in that direction if they wish, by buying the book at the small price of one dollar.

*Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania.* By R. C. Norris, A.M., M.D., Demonstrator of Obstetrics, University of Pennsylvania. Philadelphia: W. B. Saunders, 1891.

This syllabus has been prepared to meet the difficulty of accurate note-taking which most medical students encounter. Its author claims that it is so arranged that uninterrupted attendance on lectures is essential to a full knowledge of the subject. A student who would make a tabulated list of some thirty-seven different micro-organisms which may cause septicæmia would indeed be an "accurate" note-taker. In spite of some little "accuracies" such as this, the book is in every way commendable, and, when used as the author proposes it should be used, most valuable.

*Sajous' Annual of the Universal Medical Sciences,* 1891. Philadelphia: F. A. Davis.

Volume V. is devoted to general therapeutics, experimental therapeutics, electro-therapeutics, climatology and balneology, hygiene and epidemiology, embryology, anatomy, physiology.

This annual is a never-ending source of knowledge. No progressive physician can, in justice to himself and to his patients, be without it.

## Pamphlets and Reprints.

*A few thoughts on the technique of Hysterectomy.* By Joseph Eastman, M.D., Professor of Diseases of Women, Central College of Physicians and Surgeons, Indianapolis.

*Wood's Medical and Surgical Monographs* for September, 1891, contains: Food and Diets; a manual of clinical dietetics, by R. W. Burnet, M.D.; and Stertor, Apoplexy, and the Management of the Apoplectic State, by R. L. Bowles, M.D. This will be found to be one of the most valuable of the numbers published.

*Report of the Commissioners appointed to enquire into the Prison and Reformatory System of Ontario, 1891.*

*Statistics and Lessons of 1,500 Cases of Refraction.* By George M. Gould, M.D., Ophthalmologist to the Philadelphia Hospital, Philadelphia, Pa.

## Personal.

THE editorial committee of the *University Medical Magazine*, Drs. G. E. de Schweinitz and Edward Martin, resigned on the first of October, and in their places were elected Drs. J. Howe Adams and A. C. Wood.

DR. WOODS HUTCHINSON, of Des Moines, Iowa, editor of the *Vis Medicatrix*, has been elected Professor of Anatomy in the Iowa State University.

DR. GEO. H. FOX, of New York, was elected President of the Medical Society of the County of New York at the regular meeting held Monday evening, October 26th.

DR. MILLMAN, of Toronto, has removed from Spadina Avenue to 490 Huron street, a few doors above Bloor street.

PARNELL died from hyperpyrexia, one of the complications not very rare in inflammatory rheumatism.



DRS. D. J. G. WISHART and P. J. Strathy have been appointed Assistant Demonstrators of Anatomy in the Trinity School of Medicine.

DR. ANGUS GRAHAM, Dorchester, has been appointed Associate Coroner in Middlesex.

## Therapeutic Notes.

TREATMENT OF WHOOPING COUGH.—According to *Archives of Pediatrics*, September, 1891, the following are the present plans adopted in Europe.

*Scilla oxymel*.—Since Dr. Netter reintroduced this treatment in 1886, it has been constantly used in children's hospitals in France as well as in private practice. It certainly diminishes the number of attacks of cough and makes them shorter in duration. Expectoration is made more abundant and more fluid, while vomiting is soon stopped. It is given in twenty to sixty-drop doses to babies. In older children five to six tablespoonfuls is given between five and six p.m., and no food is given from three to seven p.m.

*Antipyrin* is the English idea. Dr. Crozier Griffiths believes that antipyrin only fails when not given in large doses, and finds that children stand them well. A baby of four months was given one-half grain every three hours, and on the fourth day, there being no improvement, he gave one grain every three hours, and in forty-eight hours the child was well.—*Virginia Medical Monthly*.

IODIDE OF POTASH IN DIPHTHERIA.—After several years' hospital treatment by this means, and also in private practice since, Senenko (*Rundschau*, August, 1891) recommends it most highly, as he has not lost a case since he has adopted this method. Adults may be given one-half to one drachm of iodide of potash daily; children, one-half the quantity. It should be given every three or four hours till iodism appears, or the membrane begins to come away, which takes place in from two to four days. If symptoms of heart-failure are recognized, it must be overcome by whiskey. Painting the throat is irritating, and should not be allowed; whereas, on the other hand, steam in-

halations of a three per cent. solution of boracic or salicylic acid is highly recommended. The sub-maxillary glands should be rubbed daily with oleate of mercury.—*Virginia Med. Monthly*.

DONOVAN'S SOLUTION IN GLEET.—The solution of the iodide of arsenic and mercury is said to be of material service in the treatment of gleet. A correspondent of the *Medical Record* feels that he is justified in calling this remedy almost a specific for gleet, so uniform has been his success with it. It should be given for this purpose, in doses of ten minims, three times daily.—*Atlanta Med. and Surg. Jour.*

A GREAT objection to the use of antipyretics in typhoid and other fevers is that they diminish the quantity of urine excreted, and thus tend to prevent the elimination of the toxins which are produced in such quantity by pyrexia.

DUJARDIN-BEAUMETZ says that in cases of colotomy the patient may have life made much more agreeable by the administration of salol, which will deodorize the fecal matter.

RECENT RECIPES FOR GONORRHOEA.—Dr. William B. Dewees, of Salina, Kan., says (*Kan. Med. Jour.*) few cases will remain uncured after eight days' use of injection of

R.—Sodium biborat.

Resorcin . . . aa ʒss.

Glycerin . . . ʒiiss.

Rose Water, q. s. . ʒviij.

M.—S. Inject ʒij every two hours the first day; then lengthen intervals as the discharge lessens. After third day, take internally, tincture cannabis indica, five drops every three hours. Bathe glans penis in as hot water as can be borne three times daily.

Dr. Richard Lee (*Intern. Surg. Jour.*, August, 1891) first uses warm injections of sodium biborate and morphia [sulph.] (in glycerin and rose water) for three days; and then *aristol* in liquid vaseline—twenty-five grains to ounce. Prompt relief, without relapse, was effected in from four to six days.—*Virginia Med. Monthly*.

A LOTION FOR THE ALCPICIA FOLLOWING ACUTE DISEASES.—The following formula is given (*L'Union Médicale*) as a preventive of

the alopecia which is observed during convalescence from grave acute diseases :

|                                                               |          |
|---------------------------------------------------------------|----------|
| R.—Alcohol, 8o.                                               | 2½ 5.    |
| Camphorated alcohol,                                          | 1¼ 5.    |
| Rum,                                                          | 1¼ 5.    |
| Tincture of cantharides,                                      | 1¼ 5.    |
| Glycerine,                                                    | 1¼ 5.    |
| Essence of sandalwood,<br>wintergreen, and roses,<br>of each, | 5 drops. |
| Muriate of pilocarpine,                                       | 7½ gr.   |

If the hair becomes dry, inunctions of oil of sweet almonds or castor oil may be made from time to time.—*Univ. Med. Magazine.*

#### — IODOFORM PENCILS.—

|                           |           |
|---------------------------|-----------|
| Iodoform, in fine powder, | 10 parts. |
| Cacao Butter,             | 9 parts.  |
| Castor Oil,               | 1 part.   |

Mix them in a gently warmed porcelain mortar, and when the mass has been half cooled suck it into glass tubes having a lumen of 3 Mm., and place these in cold water. When the mass is cold, push the pencils out and cut them into pieces or points of 6 Cm. (2¾ inches) in length.—*American Druggist.*

#### — ANTISEPTIC ADHESIVE OINTMENT.—

|                 |             |
|-----------------|-------------|
| R.—Zinci oxidi, | gr. ivss.   |
| Zinci chloridi, | gr. xxiiss. |
| Gelatinae,      | 5v.         |
| Aquæ,           | 5viiss.—M.  |

This dressing protects the surface of wounds and dispenses with the use of bandages after operations. It is especially of service for the dressing of wounds on the face.—*Gaz. Hebd. Sciences Méd.—Satellite.*

SOZOIODOL IN LEG ULCERS AND SUPERFICIAL BURNS.—Nitschmann (*Pharm. Post*, 1891, No. 26, p. 467) advises the following ointment :

|                     |        |
|---------------------|--------|
| R.—Sodii sozoiodol, | 3j.    |
| Lanolini,           | 5x.—M. |

Sig : Apply upon the parts affected.—*Nouve. Remèdes.—Satellite.*

#### — SORE MOUTHS OF NURSING WOMEN.—

|                   |        |
|-------------------|--------|
| R.—Listerine      | f 3ij. |
| Glycerini,        | f 3ij. |
| Aquæ Menth. Pip., | f 3ij. |

M.—Sig.: Use as mouth wash two or three times a day.—*Weekly Medical Review.*

## Miscellaneous.

THE DANGERS OF SULPHONAL.—Dr. Bresslauer (*Wiener Med. Blätter*), in making a thorough investigation with sulphonal in the treatment of neuroses, says that while in some cases it has been known to do good, yet the bad effects of the drug are so apt to come on and prove fatal when least expected that he does not advise its use unless cautiously administered. When any one symptom comes on which could be attributed to the remedy, it should be at once left off; even then it may be too late, in most cases, to save the patients from heart-failure, to which, as a rule, they succumb. The toxic symptoms of the drug are : First, constipation; following this, scanty and dark-colored urine, thirst, increased pulse, appearance on the legs of bluish spots similar to purpura, ataxia, and numbness, a difference in the temperature of the upper and lower parts of the body, and, finally, heart-failure.—*The Journal of Nervous and Mental Diseases*, August, 1891, p. 534.

THE INTERNATIONAL CONGRESS AT ROME.—A medical association has been started, with Dr. Senn, of Chicago, as its president, with the object of going together in a body to the meeting of the International Medical Congress to be held in Rome in 1892. The intention is to charter a vessel, which will take the party over and bring them back. It is expected that the trip will last six weeks, and that several places in the Mediterranean will be visited. The vessel will accommodate about 400 passengers.

ENGLISH MEDICAL COLLEGES.—The Medical Faculty of Cambridge University is now probably the largest medical college in England. The numbers of new students entering for full curriculum registered up to October 20th, in the larger colleges, were as follows, Cambridge, 119; St. Bartholomew, 104; Guy's 91; St. Thomas', 83; St. Mary's, 76; Owen's College, Manchester, 66; Middlesex, 62; University College, 61; St. George's, 47; Charing Cross, 45; University of Durham, 44; London, 36; University College, Liverpool, 36; Queen's College, Birmingham, 36; King's College, 35; Yorkshire College, Leeds, 34; Westminster, 22; Oxford, 22.

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Original Communications.

A PLEA FOR PROGRESSIVE SURGERY.

Being the President's Annual Address to the Southern  
Surgical and Gynecological Association, Nov. 11, 1891.

BY L. S. M'MURTRY, A.M., M.D.,  
OF LOUISVILLE, KENTUCKY.

My first duty upon this occasion is to express my grateful appreciation of the honor conferred by the Fellows of this Association in calling me to this responsible place. Following in the footsteps of my distinguished predecessors, I feel keenly my own unworthiness for this eminent position. My earnest desire to promote the interests of this Association and to forward the two great branches of our art fostered by this organization constitutes whatever claim I might lay to your generous consideration.

The fourth annual meeting of our Association confirms the wisdom of its founders as to the necessity for such an organization. At our second annual meeting our distinguished Fellow, Dr. Hunter McGuire, then our president, depicted in eloquent words the peculiar conditions and influences of our Southern civilization. Our gifted colleague described the pursuits and characteristics of our people; the conditions surrounding the labors of our professional brethren, and the peculiar necessities for local and special medical societies. After pointing out the influence of state and county societies in advancing the standard of the profession, he declared that there was a special need for foster-

ing this organization. The three volumes of Transactions given to the professional public, and this assembly of eminent and active practitioners of surgery and gynecology, attest the truth of those utterances.

Within fifteen years the entire practice of surgery has been revolutionized. New methods have been introduced and new regions invaded; comparatively recent teachings have become obsolete in practice, and modern treatises recast. The science and art of gynecology, which a few years since was limited to a small and narrow field, has grown into a great branch of medical science and practice. Formerly divided between midwifery and surgery, as a minor branch of one or both, gynecology has become an independent and essential department of the healing art. To promote the study of these two great and growing branches of medical science, to quicken research, and diffuse knowledge among the profession in the Southern States, is the special mission of this Association. Assembled in this historic capital of the Old Dominion, so intimately associated with the grand old colonial times, and with the later severe ordeals of our internecine troubles, we have reason for congratulation upon the success which has crowned our efforts to establish the first and only special society in the South.

It is not my purpose upon this occasion to attempt to recount the advances and triumphs of general surgery or gynecic surgery in recent years. These advances and their beneficent results are too familiar to this assembly to need



recital or accentuation. It has fallen to our lot to witness the realization of the hopes of our predecessors who have toiled in these fields in years ago, and to see in many instances the perfection of methods hitherto incomplete and inefficient. The highest attained science is established truth; the greatest perfection in art is efficient simplicity. Both are reached only through a long process of evolution, wherein the essential truth is often overlooked and the pioneer work frequently overdone. Neither is it my purpose to recite the influence of the optimist and the pessimist, so often found in the ranks of our profession; those who have, as it were, discovered a panacea in some new method or remedy, and those who decry all advancement and find inefficiency and imperfection in everything. I desire to direct your attention to an abuse of terms, as it appears to me, by which great improvements in our work are obstructed, and injustice done both to surgery and surgeons. I wish to make a plea for progressive surgery.

Webster defines the word *conservative* as follows: "Having power to preserve in a safe or entire state, or from loss, waste, or injury." All will concede at once that in time of peril to health or life this word embodies the purpose uppermost in the surgeon's endeavors, and the object of all his labors. This term is a conspicuous one in surgery, and has been used to indicate and classify certain surgical procedures known as "*conservative surgery*." But of late this term has been made to have a very wide and altogether arbitrary significance, and is often used in antithesis to *progressive surgery*. Indeed it has come to be used by certain surgical writers and speakers as synonymous with the word *expectant*, to mark methods wherein nature is left unaided in her efforts to resist disease and injury. The word is very winning to the popular professional mind, as well as to the laity, and in its perverted sense is misleading and deceptive. We should enter a protest against the perversion of the word *conservatism* when that word is used to oppose and retard *progress* in surgery the supreme purpose and object of which is "to preserve in a safe or entire state, or from loss, waste, or injury."

Not many years have elapsed since it was the established usage of surgeons to defer operation

in cases of ovarian cystoma until the patient's general health was impaired and she was reduced by emaciation. This was pronounced *conservative*. When under the leadership of Bantock it was urged that the time for ovariectomy was as soon as the tumor was discovered, before complications arose and before the health was impaired, it was regarded as an expression of "the modern craze for operative interference." With the mortality of the two courses before us, which, I would ask, is *conservative*?

There are certain abnormal conditions of various organs and structures in which the individual can only be rescued from impending death by prompt surgical aid; such, for example, is a ruptured tubal pregnancy. Here delay and opium and palliatives have been advocated under the misleading plea of conservatism. Is it not the part of conservative surgery to tie the bleeding vessels and remove the disintegrated embryonic structures? In other conditions, wherein safety lies only in surgical interference, it is claimed that surgical aid should be invoked only after a prolonged treatment by palliative measures, when the medical attendant has been convinced that he is leading a forlorn hope, and that relief will come, provided it comes at all, from operative treatment. This course, whereby operations are performed upon dying patients, is commonly called conservatism.

One of the great advances of modern times is in the knowledge we have acquired of the inflammatory diseases of the uterine appendages. Almost thirty years ago two able French surgeons discovered and described these lesions and their deadly effects, but the profession did not heed them. When modern surgery opened the peritoneum to frequent exploration, the truth and importance of the researches of Bernutz and Goupil were realized and accepted.

A large proportion of the Fellows of this Association devote themselves exclusively to gynecology and pelvic surgery. These gentlemen are constantly removing suppurating masses (pyosalpinx and ovarian abscess) from the pelvis. All of us have seen women dragging out a miserable existence with chronic inflammatory disease of the uterine appendages and associated recurrent attacks of peritonitis. We have also seen these women restored to health and activity, after years of invalidism, by removal of

the diseased and disintegrated structures. Moreover, we all know that throughout this broad land every year women perish of this condition of disease for want of operative treatment, and that no other treatment known will cure this class of patients. Yet, under a plea of *conservatism*, this great advance in pelvic surgery, this brilliant improvement in our resources for saving life and restoring health, has been denounced from the rostrum and ridiculed in the medical press. That some rash enthusiasts, or some injudicious operators should misapply an operation of great worth is not new. The same has obtained with other great improvements in both general and surgical therapeutics. Surely it does not justify inveighing against the operative treatment of such a grave form of disease without discrimination. To allude flippantly to the "castration of women," to "removal of the ovaries," "spaying," etc., is to convey an idea of a great advance in pelvic surgery, by which hundreds and thousands of lives are saved, as erroneous as it is unjust. I wish to record here that no gynecologist, so far as I am aware, advocates or approves the removal of ovaries and tubes except for lesions which destroy the health and usefulness of the individual, impair and destroy the functions, and which are incurable by non-operative treatment. To counsel delay and palliative methods in the treatment of a sac of pus within the peritoneum, enclosed in friable walls growing thinner each day, is as far from a conservative method of treatment, in the correct acceptance of that term, as one can conceive. To open, evacuate, remove disintegrated structures, and drain, is the application of sound surgical principles, "having power to preserve in a safe or entire state, or from loss, waste, or injury," according to Webster's definition of conservatism.

I would not be understood for one moment to declare that operations for removal of the uterine appendages have not been done unnecessarily. On the contrary, this operation, like many others, has been abused in many quarters. Eager desire for the eclat of a successful laparotomy has led many, who have never seen or recognised by touch a pus tube, to remove the appendages. This abuse has oftentimes thrown discredit upon pelvic surgery. But we must protest against the wholesale condemnation of a great life-

saving procedure, and a large and respectable body of earnest practitioners, on account of the recklessness of others. Those who are most prominently identified with this work and who observe the utmost circumspection in the selection of cases are made the target of criticism.

The operations upon the uterine appendages are the most difficult in the entire field of pelvic surgery. Indeed, when the tissues have been subjected to long-standing inflammation, when the pelvic organs are matted together by organized exudate, and degenerative changes are advanced in ovary and tube, no operation in surgery more severely taxes the resources and endurance of the operator. Normal landmarks are destroyed, intestines are readily torn, and large blood-vessels are opened; all requiring prompt and decisive action on the part of the operator while the parts lie fixed deep in the pelvis.

It seems incomprehensible that one who has performed such an operation for such a serious condition of disease, or who has seen it performed, could characterize the procedure by the expression, "removal of the ovaries." Hence we must conclude that many who criticise in wholesale terms operations upon the uterine appendages are unfamiliar with the lesions which obtain in those structures, and in consequence of which the operations should be performed. It is to be regretted too that many who operate upon the pelvic organs have not given more attention to the pathological conditions to which the uterus and its appendages are exposed before resorting to operative treatment. It is a want of appreciation of the character and variety of lesions to which these organs are subject, and unfamiliarity with the indications for operative interference, which have led to abuse of the operations and sweeping criticism of most valuable improvements in pelvic surgery.

Fortunately for science and humanity, no amount of misrepresentation and unjust criticism can permanently obscure the truth or obstruct the progress of science. Every great improvement in surgery must pass through the fierce ordeal of criticism before emerging into the fixed position of established acceptance. It has been our lot to see during the past decade the greatest achievements of modern times in surgery firmly established, despite the fierce criti-

cism and misrepresentation of men and methods. The progress of surgery, like that of all sciences, is an earnest and persistent search for truth.

When Marion Sims announced through the columns of the *British Medical Journal* that he believed the proper course of treatment in every case of gunshot wound of the abdomen is to open the abdomen, search for the bleeding points and secure them, and suture intestinal perforations, he was pronounced by many prominent surgeons to be a dreamer. The suggestion of Sims was most timely, and shortly afterwards Bull successfully executed the operation. For years the treatment of opium in full doses had been pursued, with death in waiting. Now there is scarcely a State in the Union that one or more patients have not been rescued from certain death by prompt resort to operative treatment. I mention these circumstances to illustrate and emphasize the point which I wish especially to bring before your attention, viz.: that surgery is advanced more by the aggressiveness of the surgeon than by timidity. In the face of desperate conditions of disease and injury, where there can be no safety whatever in delay and palliation, the only treatment worthy of consideration is the aggressive course which promises success. Under such conditions the most heroic surgery is conservative, and any other course is not conservative.

One of the most convincing arguments as to the efficacy of surgery is that surgeons believe in it. That they do so believe is attested by the promptness with which it is invoked in behalf of their own lives and that of members of their own families. Those members of our profession who are not familiar with operative work, or who do surgery as a last resort, or under protest, are disposed to oppose surgical treatment. They look upon surgery as dangerous, only to be resorted to as a last desperate chance; and they are right to this extent only: it is dangerous when utilized as a last resort, not otherwise. When the whole profession realizes that surgery is at all times conservative, when major operations are performed by those who believe in surgery and have by apprenticeship acquired surgical skill, then will the progress of this great science and art be unobstructed by misunderstanding and misrepresentation.

## INSOMNIA.

BY A. M'PHEDRAN, M.B.,

Associate-Professor of Clinical Medicine, University of Toronto.

Nearly every physiologist has advanced some theory of sleep, without, however, adding anything to our knowledge of its nature, although many of its phenomena have been much elucidated. But of sleep itself we know little more than that she is "nature's sweet restorer." Mental activity is effected at the expense of increased metabolism of nerve tissue, which soon leads to a feeling of exhaustion. This demands the repose of sleep for the removal of the waste and the restoration of the active condition of the nerve cells.

In dreamless sleep all the organs are in a state of quiescence, only those functions necessary to the vital processes being continued, and even these are modified to meet the lessened activity of the organism, as seen in the slower pulse and breathing. The onset of sleep is gradual. It has been said that "sleep general is made up of many particular sleeps." It does not invade the whole organism at once, but the motor and sensory parts of the brain, the spinal cord, the organs, the muscles, must all repose themselves in order that sleep may be sound and complete. That the brain is subdued before the cord is shown by the frequent occurrence of starts while falling asleep; this is due to the inhibitory control of the brain being lost while the cord still maintains its irritability. The persistence of excitability of any part of the body may, and usually does, maintain such a state of irritability in some of the cerebral cells as to prevent, or at least disturb, sleep.

The amount of sleep needed varies with the individual, and even in him at different times, according to his condition. As the object of sleep is to restore the vitality, it follows that it should continue in each case until its object is attained; that is, until the individual is recruited and awakes vigorous and active. Each person should therefore be a "law unto himself" in the matter of the duration of time spent in sleep. The time spent in sleep, however, is not all; the quality of it varies also. This is proved by the great degree of refreshment that often follows a short nap; also, in that one may awake from a long prolonged sleep unrefreshed. This



variation in the result of sleep depends rather on the accompanying conditions, especially the state of digestion, than on the sleep itself.

Insomnia of varying degrees is of extremely frequent occurrence, as would naturally be expected, not only from the great variety of causes, but also from the great variety of avenues by which these causes may act. There are few who do not suffer at times in some degree, but it is only in exceptional cases that no sleep is obtained during the night. Disturbed and uninterrupted sleep occurs much more frequently than complete want of it. Very many who complain of want of sleep, sleep much more than they care to admit; as with many other neurotics, they regard the ailment as rather a mark of distinction, and, like Tam O'Shanter's auld wife with her wrath, "nurse it to keep it warm."

Insomnia, not being a disease, but a symptom occurring in a great variety of diseases, anything like a classification of its causes is scarcely possible. The efficacy of the cause varies with the individual, in some the most trifling disturbance being enough to rob them of their night's sleep, while others are disturbed only by marked impressions. All the causes might be grouped into two classes, viz., those dependent directly on the conditions of the cerebral cells themselves, and, secondly, impressions conveyed to them from other parts.

The following causes will have occurred in the experience of all:

1. Impressions through the senses, as pain, cold, hunger, light, noise, position of discomfort, etc.

2. Abnormal conditions of the gastro-intestinal tract. Of all the causes, dyspepsia is the most frequent, and occurs in a more or less marked degree in connection with the majority of causes. We know that it may exist without any suspicion on the part of the patient; he is not conscious of any disturbance of the stomach or of his appetite, and even under such circumstances it may be the cause of much wakefulness and disturbed sleep. Constipation and intestinal parasites are included in this class. In children particularly does insomnia and disturbed sleep arise from digestive disturbances.

3. Disturbances of circulation nearly always disturb sleep. This may be due to too little or

too much blood being sent to the brain, or the disturbed circulation may interfere with proper elimination, and the excrementitious substances disturb the cerebral cells. One of the most distressing conditions present in advanced heart disease is the insomnia; and the insomnia may be the first symptom of heart disease, for which relief is sought. Disease of the arterial walls, syphilitic or other, may also be a fertile source of insomnia. Disturbance of the cerebral circulation may also arise from bad digestion, portal congestion, and constipation. In all these causes, there is combined with the disturbed circulation imperfect nutrition of the cerebral tissue also.

4. Over-fatigue, mental or physical. A state of irritability in the nerve cells is probably produced that causes a continued hyperæmia that is incompatible with quiet or sleep. The insomnia of physical fatigue may be due to the physical pain and discomfort, and as these abate sound sleep should follow. Those indulging in excessive mental work probably develop such an irritable state of the cerebral cells that a habit of sleeplessness is begotten; then the nutrition of the cells gradually becomes inadequate, the products of metabolism are imperfectly removed, and in time there is too often failure of health, mental and physical, that only prolonged rest, at best, can overcome. Excessive mental strain is, without doubt, the cause of much of the insomnia and disturbed sleep of children. This is not to be wondered at if we consider the excessive amount of evening work school children are called upon to do. Children from 10 to 15 years of age are often, if not regularly, I know, required to do from two to three hours of work in the evening preparing lessons for next day. That means that they have from seven to nine hours work per day to do. Robust laboring men complain at being asked to do more than eight hours work per day; and yet the school authorities think nothing of forcing children to devote themselves as many hours per day to work that in most cases probably makes a greater proportionate draft upon their vitality. Much of the restlessness that it has been the custom to attribute to worms and dyspepsia is no doubt due to excessive mental fatigue, either directly, or indirectly by the ill-digestion and health it engenders. So long as

a child at school or a student at college is able to take a sufficient amount of quiet dreamless sleep the work he is doing is well within his capacity, and will do him no harm; but if his sleep is disturbed his health is certain to suffer, and the disturbed sleep is but the prelude of a breakdown if not remedied.

5. The sleeplessness due to toxæmia of acute febrile diseases requires no more than mention. In chronic diseases, as phthisis, anæmia, joint disease, etc., insomnia may be partly due to a toxic state of the blood and partly to the exhaustion incidental to the disease. The same remark would apply to cases of dyspepsia and constipation. Toxic substances from without, as well as the autogenetic ones, are frequent and potent causes, such as the prolonged and, maybe, excessive use of tobacco, coffee, tea, opium, chloral, and bromides.

6. In the condition known as neurasthenia one of the prominent and troublesome symptoms is insomnia. The excitable and unstable condition of the nervous system renders its equilibrium more easily disturbed by any untoward condition that may exist. The condition has usually been long existent, having developed gradually. Males so affected are more difficult to manage than females; they tend to magnify their ailments more greatly, and it is more difficult to secure their confidence and imbue them with hope; at least, such has been my experience. It was notably so in a gentleman of advanced years living in a neighboring town. I saw him with his physician and gave a positively favorable prognosis. Much against my wishes, he came here a week afterwards to place himself under my care and have massage. I knew he would miss the comforts of his home and become discontented, so that the results were no worse than I had expected under the circumstance. I fully believe, however, that the experience made him more satisfied with home care, and this contributed to his recovery, which soon followed.

7. Affections of the brain or its membranes may be attended by insomnia or coma. The insomnia may be due to active hyperæmia, as in meningitis. One of the prodroma of tubercular meningitis is sleeplessness, a symptom, if persistent in a child, that should awaken our suspicion. Or the sleeplessness may be due to

anæmia, as sometimes occurs in convalescence from acute disease. Sleeplessness is of very frequent occurrence in the aged, and may be partly due to passive hyperæmia or to anæmia, or to both, anæmia in some parts, hyperæmia in others. The degenerated condition of the arterial coats renders the neighboring brain tissue anæmic and ill-nourished, so that the cells become easily disturbed. At the same time, the heart is weak, and propels the blood badly. On account of the degenerated condition of the vessels they fail to respond to vaso-motor influence, and this leaves them liable to passive distension when the recumbent position is assumed; or they may at first contract and prevent too great a flow of blood to the brain, and sleep is sound. But towards morning the vaso-motor contraction fails from want of power to maintain it, and the increased flow of blood resulting causes the patient to awaken. Such a condition is best remedied by a generous diet and stimulants, cardiac and general. Such conditions as intracranial tumors, organic diseases of the cord, etc., need but to be named as causes of insomnia.

8. Much of the insomnia we meet with is due to habits in regard to sleep practised perhaps for years. Instead of composing themselves for sleep as soon as they go to bed, some people choose this time to review the events of the day, usually the unpleasant ones, and worry over all the trials they have had; or they may spend the time evolving their plans for the future, or in some other equally pernicious way. As a consequence, they become bad sleepers from habit and complain loudly at not finding prompt relief on seeking it. It is difficult to make bad sleepers believe that much can be done by *trying* to go to sleep, and that the faculty of going to sleep at will, when sleep is needed, may be formed. It is said that Wellington, Napoleon, and Grant could go to sleep at once anywhere, as they had opportunity.

Insomnia is often due to other classes of diseases, especially those of the genito-urinary and the respiratory system.

*Treatment:* Insomnia being a symptom of almost an endless variety of diseases, it follows that its treatment will largely consist in that of the various conditions on which it depends: to correct evil habits; to remove causes of pain

and discomfort : to relieve cardiac and general vascular disturbances ; to cease from overwork or strain, mental or physical ; to secure easy and perfect digestion, and perfect elimination of waste products ; to avoid the ingestion of unsuitable or toxic foods ; to build up results of exhaustion or waste. Beyond this we can do little but endeavor to relieve symptoms and improve the general condition. With attention to the sufferer's personal condition, due consideration should also be given to his environments ; that there are proper conditions, as room, quiet, air, and warmth for sleeping. Change of air and scene are of great importance. Sea bathing or even seaside air, camping, high, dry atmosphere, are aids to most sufferers. Outdoor exercise to the point of a certain degree of fatigue, unless specially contraindicated, may overcome the sleeplessness. The late Lord Palmerston was wont to say that the outside of a house was the best medicine for the inside of a man. Such management not only directly tends to induce sleep, but it does much to improve the functions of digestion and assimilation, and of excretion, all of which may be the cause, or at least aggravate, the sleeplessness.

Various kinds of baths are of great use. The insomnia of a lady, æt. 60, at present under treatment for great mental depression with hysteria, the result of several weeks' watching over a sick husband, was quite relieved after a few days by a hot bath at bedtime, followed by cold effusion to the spine. Sedatives and soporifics, including sulphonal, had given only partial and temporary relief. Her husband, who was addicted to opium, and could obtain sleep only on the administration of that drug, was greatly relieved by a hot air bath, improvised by placing a spirit lamp under a wooden or cane chair, on which he was seated without clothing, and then enveloping him and chair in a blanket, which was pinned closely about the neck. After he began to perspire freely, he was rubbed well before the blanket was removed, a woollen night shirt put on, and then he was at once transferred to a bed which had been previously warmed.

Cold to the head and heat to the feet or abdomen, ice bags to the spine, galvanism, Faradism, massage, and the wet pack, have all been

found useful. Any means, if it is only a sip of water, if it only has the confidence of the patient in its efficacy, will do good and may succeed perfectly. There is much to be gained by forming a proper habit of sleeping. There are very many that are troubled with insomnia who, if they went to bed prepared to sleep and without misgivings as to the result, would soon acquire again the sleeping habit, and would be aided by any means in which they had confidence. In such cases the personal influence of those whose care they are under surpasses all others. As Folsom\* says : "For these reasons the grotto of Lourdes, faith-cure, mind-cure, Christian science, spiritualism, hypnotism, have their devotees, and charlatanism may succeed where medical skill and experience fail."

There are many people whose digestive organs are such that, living on the diet necessary to enable them to do their full complement of work, they are certain to have attacks of indigestion of more or less severity from time to time ; and it is better for such people to be able to do their own work, though they suffer the consequences of the malassimilation. So it is with many people of highly nervous temperament. It is better for them to do their work, though at times they suffer for want of sleep in consequence, than to refrain from work and sink into a life devoted to guarding against their malady, thus becoming useless members of a community. To such we have to content ourselves with mitigating their suffering and aiding them in bearing with that courage that enables them to still be up and doing.

*Hypnotics* : It should be ever present to our minds that nearly all hypnotics defeat their own ends by continued use. The judicious use of hypnotic drugs calls for much discretion on the part of the physician. People generally are impatient, and bad sleepers are no exception, and the temptation is strong to have early and frequent recourse to hypnotics for relief. Most people think their own sufferings the worst, and that there must be a specific remedy for *their* relief, if only it could be discovered. It is not to be wondered at, then, that drugs of this class should have such widespread and general use. The importunity of the patient is apt to lead the physician away from the principles

\* Boston Medical and Surgical Journal, vol. cxviii., p. 5.



that should guide him and cause him to administer that which will relieve the present suffering, forgetting what will be most conducive to the ultimate good.

In acute diseases, as fevers, want of sleep increases greatly the dangers by continued exhaustion, without the periods of lessened waste and increased excretion that sleep affords. Under such conditions there can be no question as to the advantage, or even necessity, of hypnotics. In painful incurable diseases, and often in the aged, their use becomes necessary, and their abuse improbable, and of little moment. It is in the neurotic that their use is so liable to be followed by their abuse that they should be given only with greatest precaution. So great is the danger from their use that they should not be resorted to until after other means of relief have failed. It should be remembered that, with rare exceptions, their administration is followed by disappointment; not rarely they fail to produce sleep, and often, if they succeed, their use is followed by effects almost as annoying as the want of sleep.

In the aged, and in states of exhaustion, no hypnotic is more useful than alcohol. With it may be given the cardiac tonics, especially digitalis, caffeine, strychnine, etc. Cases occur not rarely in which there is great desire to sleep while going about during the day, or while sitting in a chair; but on lying down on a sofa or in bed the sleepy feeling is at once dissipated. This condition is due to vaso-motor paresis, by which the blood, on account of the weakness and dilatation of the vessels, is allowed to drain from the brain in the erect posture, rendering it anæmic, hence the sleepiness. As soon as the recumbent position is assumed, the dilated cerebral vessels fill with blood, and sleepiness disappears in consequence. Bromides and general hypnotics do little good in such cases; the best hypnotic for them is digitalis, given sufficiently freely to cause vaso-motor contraction and a reduction of the blood supply to the brain. The general health and nutrition should also receive attention. Champagne at times succeeds admirably in such conditions. Ale succeeds in some when other forms of alcoholic stimulants fail. The continued necessity for such stimulation shows that the sufferer has little nerve vitality to draw upon; then

there is the great danger of the alcoholic habit being formed.

Opium is, in many respects, without a peer as a hypnotic. It is indispensable in painful affections, and equally so in the insomnia of heart disease. In the latter the dose should be carefully regulated, as in too large doses opium depresses the heart, while in small ones it acts as a heart tonic. When alcoholics fail in the insomnia of the aged, opium may succeed.

Chloral hydrate is probably our most powerful hypnotic, possessing a narrow range of other therapeutic use. Its use need not be discussed, being too well known. The grave objections to its use are the danger of the chloral habit, its depressing effect on heart and respiration, and toxic effect on the kidneys. Its prolonged use leads also to mental enfeeblement, with intractable insomnia.

The bromides, by their sedative action and effect in rendering brain anæmic, are useful aids in inducing sleep, though they can scarcely be called hypnotics. They need to be given freely, and well diluted, during the day or evening. If long continued, they will defeat their own ends by their interference with cerebral nutrition.

In paraldehyde, I have had probably the most satisfactory hypnotic. In doses of one drachm or less it leaves no unpleasant effects, and usually is effective in producing sleep. It is useful in excitement, and its effect may be increased by the addition of a small amount of morphia. Its disagreeable taste and smell is its chief objection, and yet even that is of great use in some neurotic subjects.

Sulphonal, an excellent hypnotic in many, fails wholly in others. Its effect is not rarely prolonged into the next day, even then shown most markedly. It may even in moderate doses cause depression of the heart. It is dissolved with difficulty, and therefore slow in action. It is usually given, therefore, early after dinner, or dissolved in a good quantity of water, may be taken in divided doses later. So given, its effect has been found more certain.

Hyoscyamine I have not found of any benefit, even in doses of  $\frac{1}{25}$  gr. repeated; but my experience with it has been very limited.

Phenacetine is a very useful remedy in many cases of restlessness, especially if there is some fever. It may cause profuse diaphoresis, and

thus be objectionable. It relieves muscular and other pains of slight degree.

My slight experience with urethan has not been satisfactory. It usually has failed, though it was satisfactory in some cases.

Turpentine is recommended in the insomnia of worry: it probably acts as a vascular stimulant.

#### SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

When the chill breath from the icy north steals southward and tints with red the leaves of our emblematic and lovely maple, we feel that, if we had the wings of the waterfowl and could all move together, their example would be quickly followed. When such an attraction as the meeting of the flourishing Southern Surgical and Gynecological Association is added to that of a few days sojourn in a summer air, amidst a hospitable people, but few would refuse an invitation to go to Richmond, Virginia, in November. The temptation was too great for me. The journey can be completed in 26½ hours. The city of Richmond is one of unusual interest. I drove out one afternoon with the ex-president of the Medical Society of the State of New York, an army veteran who served as surgeon-major with the army of the North about Richmond. The recounting of his prison life when in Libby prison and of many other incidents was of great interest to me. Now, in 1891, in the elegant drawing-rooms of members of the profession of Richmond; now gathered around the dinner tables of near relatives of Southern generals: now seated at the banquetting table, there is but one united body of surgeons—surgeons of the United States of America. The past has not been buried, but the misunderstandings of the past are such no longer, and in our profession one sees nothing but the greatest of harmony. At this meeting many met for the first time since the time of battle.

The work of organization fell to younger men. A genial type of a Southern gentleman, a worker of a high order in the field of modern surgery, Dr. Lewis T. McMurtry, the president of the Association, working side by side with another able worker from the rich mineral region of Alabama, Dr. W. E. B. Davis, completed the

programme that was so successfully carried out. Dr. Hunter McGuire, with his committee of arrangements, completed a splendid programme of social events. The social features were enjoyed by the members and guests fully as much as the intellectual feasts served up at the meetings. The newspaper editors were evidently just recovering from severe illness, and in their gratitude noticed the meetings with a liberality truly Southern.

Among those present were: Drs. L. T. McMurtry, Louisville, Ky.; J. McT. Gaston, Atlanta, Ga.; W. E. B. Davis, Birmingham, Ala.; Vander Veer, Albany; W. W. Potter, Buffalo; C. A. L. Reed, Cincinnati; Seymour, Troy; Morris, Emmett, L. C. Gray, Wells, New York; Joseph Price, Philadelphia; Stone, Washington; Kelly, Rohé, Opie, Baltimore; Marcy, Boston; G. Ross, T. Neison Page, Hunter McGuire, Geo. B. Johnston, Winn, Wellford, Richmond; and many others.

The list of papers has already been published elsewhere, and the transactions will be printed and bound in a handsome volume without delay. The annual fee for membership is but ten dollars, and yet the society publishes its transactions and has a surplus on hand. It is to be hoped that our Canadian societies will soon wake up and follow the good example of the Southern Surgical and Gynecological Association. It is not as large an association as our Ontario one. Our material is either used in building up other journals or transactions, or is lost. There is no encouragement to good work when papers are simply read at race-horse speed, in full or by extract, at a small meeting, and are lost, together with the discussion, that is often more valuable than the paper. With a membership of 200, our Ontario Association could readily publish papers and stenographic reports of discussions for a membership fee of five dollars a year, and perhaps a little extra for each volume. The Southern Association charges nothing for the volume to members, and pays for all plates inserted. There are two methods of publication, an expensive and an inexpensive method.

We have brains in Canada; we have as fine a body of general practitioners in Ontario as can be found in any country; and as it was in the Southern States until 1887, so it is here to-day; some splendid surgical work is being done by

our country practitioners and is lost to science. As one's acquaintance with men who are eminent from a literary standpoint—as writers of text-books—increases; as one sees them in the intellectual combats of their own societies, one's hero-worship ceases and his respect for his professional brethren at home increases. This hero-worship is too rife in Canada. At this meeting of the Southern Surgical Association, the greatest were on a common level with the smallest. If deserving applause, applause was given, and each speaker was very soon “sized up.” No one was asked especially to take part in the discussion and introduced as “our celebrated and distinguished visitor from New York or Philadelphia,” or made a lion of. They thought less of a man's past record. The hero-worship of fogysim has no place in the Southern Surgical and Gynecological Association. They are anxious to help along young and earnest workers who are willing to help themselves. The fight between the surgeon of the past, who drew himself into his conservative shell, content that he knew “it” all, and the aggressive young searcher after truth, who soon learnt that there were yet rich regions unexplored, has now no place in the proceedings of this society. The conservative men may in their hearts be conservative still, but they stay at home. The work of Price alone is sufficient to demonstrate the reasons why the conservative gynecology has failed, and will fail. As he aptly put it, “You may as well leave a sequestrum of bone and expect to heal an abscess of a limb as to expect to heal a pelvic abscess by aspirating and draining a pus tube.” His assertions may even have appeared offensive in the meeting of which we are speaking, but they are true. He has fought the old conservative gynecologist all along the line; he has removed pus tubes, torn bowels, stitched up fistulæ, and done a general cleaning up after many of the most eminent men of the conservative school, and has cured his patients. He has taught many of us to do the same, and we thank him for it. One comes back reassured and emboldened.

Social features are only of interest to those who are lucky enough to partake of them. They were not singularly Southern, but were Southern or Canadian.

We are pleased to welcome Dr. Gaston, a

name well known among Canadian surgeons, as the president-elect for 1891-2. He has done good surgical work, and is still a worker, though Father Time has whitened his locks and wrinkled his brow.

J. F. W. R.

### TRAUMATIC HYSTERIA.

In the September number of *The Practitioner* (Eng.) there appears an article by Dr. Wherry on “Clinical Notes of Nerve Disorders in Surgical Practice.” In this article he refers fully to the subject of hysteria among young men, especially undergraduates, caused by some slight accident received on the football field, or received when gathered together for some other purpose. “It would not be difficult,” writes the doctor, “for any one practising much among young men to be led to conclude that hysteria is more common among males than among females.” He also draws attention *en passant* to the peculiar fact observed in hospital, “that though many students *go down* at their first operation, it never happens in the case of nurses that they are definitely overcome by the first sight of bloodshed, or turn sick, as men do, at the sights and sounds of suffering.” The first statement above quoted, so entirely different from what is generally taught in our schools, may nevertheless be well founded. It reminded me of a remarkable case, due to a fall, that I saw this summer while relieving a fellow-practitioner on the shores of one of our inland lakes. The case seems almost too ludicrous to report in such a serious periodical as a medical journal.

A few miles from my place of residence was a summer settlement of fishermen, many men, but very few women. Willie Mc——, age about 20, with two others, were out hauling in their nets, when he fell, receiving a severe blow in the upper lumbar region of the spine. He became unconscious, and so remained for about two hours, while the others finished hauling in the nets and sailed for shore. I saw him about four hours after the fall; he was then quite conscious and surrounded by a great many sympathizing friends. After careful examination, I told them it was a case of spinal concussion and that no bones were broken. I got him to bed, ordered local applications, an aperient, and sed-



atives. No woman graced the shanty to which Willie belonged, but in the next was a young girl, Nellie, the belle of the settlement, who could easily count her ten to fifteen ardent admirers. She was very sorry for him in his troubles. Two days later I was again summoned to the settlement, for "Willie was having convulsions." On entering the shanty I found him in a so-called unconscious state, Nellie kneeling by the bedside and asking in a most imploring tone, "Don't you know Nellie?" In a few minutes he recovered consciousness sufficiently to throw one arm around Nellie's waist and with his free hand to press her cheek down to his. In a moment he began to throw about his arms in a most violent manner, striking the wall and striking his fists madly together, but not touching Nellie, who has meanwhile changed her position and is now sitting near the head of the bed. He keeps telling her not to be afraid, as he would not hurt her. Suddenly he sits up, throws his arms about her, embraces her warmly, and sinks back on his pillow, consciousness being now fully recovered. It was not until now that he recognized me. Many others besides myself had gathered in during the convulsion. His father told me that Willie had been going on like this for twenty-four hours; that each attack was more prolonged than the preceding one, and that Nellie was the only one who seemed to have any quieting influence over him. He was very anxious to know if the boy's life were in serious danger. The boy was eating and sleeping well, and on examination I found no symptoms except hyperæsthesia. I assured the father that there was no serious damage, continued the sedatives, and ordered that the shanty be kept absolutely quiet, and that Nellie must not be present during a convulsion. I saw patient again two days later. I found that my orders to keep the shanty quiet had not been carried out, and I was therefore not surprised to find that the patient's symptoms were as before, but much exaggerated. He was apparently unconscious, his arms were flying about violently, his feet were beating a continuous and noisy tattoo in the bed, his anxious friends were standing about him, and Nellie was at her old seat on the bed. Every now and again he would sit up and embrace her, sometimes several times in quick succession. What with throwing himself

from the lying to the sitting position, and back again to the lying position; what with his arms flying about and his feet beating a wild tattoo, he was really alarming to look at. After consciousness was fully restored, I asked Nellie and the others to leave the shanty. This annoyed him and almost immediately he rolled out of bed. I noticed that with all his tossing and throwing his bed-clothes had, up to this time, not been in the least disturbed. I scolded him sharply, sat with him for half an hour, and in that time, by the virtue of scolding, aborted three or four incipient convulsions, assured his father and brothers that they were unnecessarily alarmed, and repeated my previous orders as to keeping the shanty quiet. The next day he was very much improved and left for home, since which time I have seen or heard nothing of him.

Was this a case of subacute meningo-myelitis? or a case of traumatic hysteria? or a case of "a young man's fancy lightly turned to thoughts of love"?

C. F. McG.

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## Selections.

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RECOVERY FROM HIP DISEASE BY NATURE'S METHODS.—Dr. V. P. Gibney presented a case of hip disease showing a remarkable recovery by nature's methods, at the October meeting of the orthopædic section of the New York Academy of Medicine. A boy of eight years was admitted to the hospital in 1882 with disease of right hip in second stage. Family history, tuberculous. Disease dated back to the previous April. On admission he was fairly nourished, hip flexed to 100° and held in this position. *Practical* shortening of  $3\frac{3}{4}$  inches. On July 7th, 1883, flexion had increased to 135°, and an abscess filled the whole gluteal region. On October 12th the abscess opened. November 16th he had become greatly emaciated, pale, and waxy, the thigh acutely flexed on the abdomen and abducted, the head being apparently dislocated on the dorsum, while the whole thigh, from the junction of the lower and middle thirds to the trochanter major, was undermined, and large quantities of pus were discharging from two sinuses. Could only sleep with the aid of two drachms of the U. S.

solution of morphia, and his condition was so bad that it was thought there was no chance of his recovery and he was advised to be taken home. On the 27th of November he was visited by a member of the house staff, who found him suffering from diarrhoea and night sweats, with poor appetite, a pulse of 130, and a temperature of 101°. On the 7th of December his condition was about the same, except that a bed sore as large as a half dollar, had formed over the trochanter on the sound side. Not seen again until October 14th of the present year, when he returned, looking hale and hearty. He said that after leaving the hospital, he had been confined to bed for one year and a half, and had then begun to go about on crutches. For the past four years he had been wearing a five inch high shoe. The site of the old abscesses and of the bed sores, are marked by very large cicatrices. The angle of greatest extension is 100°, and that of greatest flexion, 90°. The adductors are very tense.

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BILLROTH'S STATISTICS ON EXSECTION OF THE STOMACH AND INTESTINES.—Professor Billroth has published statistics of 124 resections which have been made in his clinic from 1880 to 1890; 83 were by himself, 3 by Wolfler, 8 by Hacker, and 15 by Saltzer and Eiselberg. The cases were all chronic processes with pyloric stenosis, malignant forms of swelling. There were 41 cases of pyloric resection (7 males and 34 females, with ages from twenty-six to fifty-eight years). The operations lasted from 1¼ to 3½ hours, with removal of 4 to 21 ctm. of the intestine. The cause of operation was: In 28 cases, carcinoma; in 1 case, sarcoma; in 12 cases, callous cicatrices. Results: 19 cases recovered, 22 died. Of 27 typical pyloric resections, 12 were favorable and 15 fatal. Of the 13 cases of carcinoma that had endured the ordeal of the operation, 5 died after ten months, and 1 after 5¼ years, from recurrence. There were yet living three women, of whom two had been operated upon 2½ and 4½ months. There were 6 operations on account of scar stenosis, of whom 3 recovered. One patient died after three months from peritonitis, caused by an abscess in the cicatrix. There were 28 gastro enterotomies on account of carcinoma, with 14 recoveries. These all died in from one to

eighteen months. Of 11 resections of the small intestine (7 males and 4 females), all were favorable. (Eight times on account of preternatural anus, once traumatic opening of intestine, and once carcinoma). Of 24 resections of the cæcum, there were 11 on account of carcinoma (with 5 recoveries); 13 on account of fistula after perityphlitis (7 recoveries, 5 deaths, and 1 persistent fistula). Of total cases of cæcum resections, 11 deaths, 13 recoveries. Of 8 colon resections, 4 deaths and 4 recoveries. Of 7 resections of rectum all recovered, 5 times with formation of fistula.—*Wiener Medizinische Wochenschrift*.—*Medical Record*.

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THE ELIMINATION OF ANTIPYRIN IN CHILDREN.—It is a well-known fact that children bear proportionately large doses of antipyrin, and that unpleasant symptoms are more rarely observed in them than in adults. MM. Perret and Givre have made experiments to discover whether antipyrin was not eliminated in the urine more rapidly in children than in adults, and if it was not possible to explain in this way the increased tolerance. Their conclusions are:—

1. The urinary elimination of antipyrin begins at the same time after its ingestion, whether in the old man, the adult, or the child ( $\frac{3}{4}$  to 1 hr.).
2. The child eliminates the antipyrin more rapidly than the adult, and the latter more rapidly than the old man.
3. Large doses have no effect on the time of appearance of the antipyrin in the urine, but the duration of the period of elimination is notably prolonged.

It seems, therefore, that, to a certain extent at least, the more rapid elimination of antipyrin in children explains the greater tolerance of the latter for this medicament.—*Le Bulletin Médical*, August 16, 1891.

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MEDICINE AT THE WORLD'S FAIR.—We are informed that the Medical Director of the World's Fair is Dr. John E. Owen, and that he has promised that women shall receive official recognition upon the medical staff. The number to be appointed has not yet been announced, but assurance has been given that women physicians will rank with men and share the duties of the exhibition hospital. The profession will look forward with interest to Dr. Owen's exhibi-

tion hospital, with its exhibition staff of male and female doctors. According to the reports of the last exposition at Paris they may expect about 732 cases of hysterics, 197 syncope, 11 deaths, and 3 births. This will be enough to make the hospital interesting as an exhibition.—*New York Medical Record*.

COMPOSITION OF KOCH'S TUBERCULIN (Conclusion of paper by Wm. Hunter, M.D., M.R.C.P., F.R.S.E.).—In their order of importance, as well as of amount, the chief substances present in tuberculin are, according to these observations: (1) Albumoses; chiefly protalbumose and deutoalbumose, along with heteroalbumose, and occasionally a trace of dysalbumose. (2) Alkaloidal substances; two of which can be obtained in the form of the platinum compounds of their hydrochlorate salts. (3) Extractives; small in quantity, and of unrecognized nature. (4) Mucin. (5) Inorganic salts. (6) Glycerine and coloring matter. So far as my observations go, the following substances are absent from tuberculin, namely, serum albumin, globulin, peptones.—*Pacific Record of Medicine and Surgery*.

TREATMENT OF SMALL CYSTS WITH INJECTIONS OF CHLORIDE OF ZINC.—According to the size of the tumor 0.2–1.5 ccm. of a 0.1 proc. chloride of zinc solution should be injected. These injections are painless. The cyst becomes then harder, later soft, and shrinks after four or five weeks. After this small operation, a pale œdema is seen, sometimes a slight hyperæmia of the surrounding skin; Priessnitz's compresses may be used with great advantage for this œdema. Landerer reports cured: Three simple ganglions on the back of the hand, two diffused tumors of the sinews on the back of the hand, one hygroma præpatellare, one hydrocele of the size of an egg in a man fifty-six years old. The treatment is *tuto juncunde*, but moderate *cito*.—Landerer, *Munchner Med. Wochenschrift*.

LATENT TUBERCULOSIS.—A prize of three thousand francs (\$600) has been offered for the best essay on the subject of "Latent Tuberculosis," to be presented to the next Congress of Tuberculosis, which will probably meet in 1893.

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, DECEMBER 1, 1891.

### UNIVERSITY OF TORONTO: REPORT ON FINANCE.

The recent report of the standing committee on finance, as presented to the Senate of the University of Toronto, contains certain clauses which are of interest to the friends of the Medical Faculty. The new addition to the Biological Laboratory contains the large rooms which are necessary for the museum, together with certain store rooms, etc.; some rooms which are used by the Medical Faculty and the department of Mineralogy and Geology, respectively; and a lecture-room used at present by both. The University authorities have estimated that the portion of the building which is occupied by the Medical Faculty is worth thirty thousand dollars, and have decided to demand for rent the sum of twelve hundred dollars a year, or four per cent. on the value.

This somewhat extraordinary position of affairs is said to be caused by the exigencies of the times. The needs in other departments are so urgent that the great Provincial University is unable to give one of her own faculties house-room. If there be another instance of the sort in the whole universe we have been unable to discover it. We may say, however, that the authorities, in deciding on such a course, are not actuated by any unfriendly feelings towards this department, but, on the other hand, are extremely gratified at the success which has attended its teaching. We are somewhat inclined to agree, however, with those who think they employ strange methods in showing their gratification. The members of the faculty have accepted the position with becoming meekness,



but without boundless enthusiasm over the generosity of the Senate.

In another clause we find that the examination and degree fees in medicine had been written to the credit of a Medical Faculty Surplus Account in the years 1888, 1889, and 1890; but we are told that "during last winter the Minister of Education, having heard of these credits, had an interview with the chancellor and vice-chancellor, on which occasion he objected to them, and pointed out that the amounts should be written back to the University on the grounds next mentioned." "It appears to us (Committee of Senate on Finance) that these amounts do properly belong to the general funds of the University which performs the examinations, pays the expenses, gives the certificates, and confers the degrees."

The amounts involved aggregated in the three years mentioned \$6,942. Certain members of the Medical Faculty, however, had discharged gratuitously a portion of the work of examination by which an amount had been saved to the University, aggregating in four years, \$2,360; and this amount was written to the credit of the faculty. In the early days of the faculty, before the eye of the Minister of Education was turned in the direction of "these credits," when certain people in their innocence supposed that all the earnings of the Medical Faculty would be expended for the purposes of the faculty, some enthusiastic members of the staff endeavored to swell the surplus by popularizing the M.D. degree. To accomplish this they and their friends, about thirty in all, made application for the degree, which was duly conferred upon them, and the sum of six hundred dollars was added to the University coffers. Some of these, who cared nothing for the degree itself, are somewhat disappointed now because they had not desired particularly to contribute to the general funds of the University. From an Arts point of view, it is considered rather a good joke on the medicals.

Many who are well acquainted with the methods of procedure in other universities in various parts of the world are somewhat surprised at some of the decisions that have been reached, and feel inclined to wonder why a university should discriminate against one of its own faculties. Such discrimination appears all

the more unnecessary when we consider the original bargain made at the time of the establishment of the faculty. It must be self-sustaining. Forty per cent. of the fees paid by students were to be retained by the University. The members of the staff were to discharge the work of examination for nothing. Recent decisions actually compel the transfer of the profits of medical examinations from the faculty surplus to the general funds. The students of the faculty are allowed the privilege of attending lectures already given in Arts, but it has been decided that in every case where extra instruction is given exclusively to medical students, the faculty must provide for the payment of the same.

The following figures will show to what extent the University has been endowed by its new faculty. Examination and degree fees placed in general fund \$4,751.94. The fees of 1891 will be added to these. In addition there is a Medical Faculty Surplus Account composed of the following items:

|                                     |           |             |
|-------------------------------------|-----------|-------------|
| Gratuitous work at examinations     | -         | \$ 2,360.00 |
| Interest                            | - - - - - | 150.60      |
| Saved from 40 % students' fees      | -         | 5,323.96    |
| Interest                            | - - - - - | 351.80      |
| Return of money paid for university |           |             |
| work                                | - - - - - | 400.00      |
| Total                               | -         | \$ 8,586.36 |

It is understood that none of this surplus fund is to be expended on the payment of the salaries of professors. This plain statement will show that neither the Government nor the Senate of the university has shown any marked spirit of generosity towards the Medical Faculty.

#### THE SLEEPING WOMAN.

From time to time there appears in the daily press accounts of women who are said to have slept for months or years. It has been known for some time that there was one of these curious cases of lethargy residing in the vicinity of Kingston. Dr. C. K. Clarke, medical superintendent of the Kingston Asylum for the Insane, by the exercise of considerable address, managed to obtain access to her, and at length had her put under his care. In the *American Journal of Insanity* for October, he has published a very

interesting account of the case. A woman of 69, of neurotic inheritance, she seems to have spent almost half of her life in this state of lethargy; to all appearance asleep, but partaking of food when it was placed in her mouth. After years of lethargy she would be aroused and remain so for some time, but to return gradually to the same condition. Upon her death the only noticeable discovery was that of some tubercular deposit in her lung.

Dr. Clarke, who has under observation another case, in which the patient is asleep all winter and awake all summer, draws attention to the analogy of the condition, in some cases at least, to hibernation in animals.

To sleep seven years at a stretch and then return to the active cares and duties of life, as this woman was wont to do, is indeed a Rip Van Winkle existence. By which of the theories of sleep will physiologists explain such cases? What are the subtle changes which ever elude us in this protean hysteria?

#### SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

The growth of this flourishing young society has been almost phenomenal; and although it is now but little more than three years old, its influence is felt in all parts of North America. The "Sunny South," so dear to a large portion of the citizens of Canada, contains many of the brightest lights among American physicians and surgeons, and many of these may be found in this Association. Dr. McMurtry, of Louisville, Ky., the retiring president, although quite a young man, has made a reputation for himself which is not confined to this continent. We have much pleasure in publishing his presidential address in this issue. Dr. Ross' impressions of the meeting and its surroundings, which we also publish, will be read with much interest.

A NEW society to be known as the Western Association of Obstetricians and Gynecologists, will come into existence soon. Geographically, its territory will include the Missouri river, cities of Iowa and Missouri, and the states and territories of Kansas, Nebraska, Colorado, New Mexico, Indian Territory, and Oklahoma.

### Meeting of Medical Societies.

#### TORONTO MEDICAL SOCIETY.

October 15th, 1891.

The president, Dr. A. A. Macdonald, in the chair.

#### TUMOR OF INGUINAL CANAL.

Dr. I. H. Cameron reported a case seen in the practice of Dr. G. H. Carveth. The patient was a shoemaker, æt. 40 years, and in good health. About 8th of September a painful lump appeared in the right groin, which disappeared suddenly and with a gurgle. A few nights ago it returned. The swelling was tender and irreducible. It was elastic, tense, and scarcely translucent. On percussion, the note was found dull throughout the whole tumor. The testicle was found below and behind. A hypodermic needle was introduced and straw-colored fluid withdrawn. The escape of this fluid did not reduce the tumor in the inguinal canal. The needle was then introduced into the tumor, but no fluid could be obtained. The tumor was then cut down upon, the sac opened, when the contents were found to be a hernia of the cæcum. The omentum and the appendices epiploicæ were adherent to each other. The hernia was no doubt congenital. There was even then found difficulty in returning the hernia on account of the thickening of the walls of the cæcum, and on account of the fat attached to it. More room was obtained by nicking the sack, and the hernia was returned. The interesting part of the case was the difficulty of diagnosis.

Dr. Atherton narrated a similar case in a middle-aged man, in whom there suddenly appeared an irreducible swelling. Under chloroform and taxis, it was reduced. As in this case, the bowel was strangulated at the neck of the ring, and there was an accumulation of fluid below, due to the plugging of the neck of the sac, and consequent obstruction.

#### VAGINAL HYSTERECTOMY.

Dr. I. H. Cameron related a case of vaginal hysterectomy in a woman of middle age. One year ago, subsequent to a fall into a lake, phlebitis had developed in the right leg. This summer she suffered from diarrhoea. Disease of the uterus was discovered by her physician, and she

was sent into St. John's Hospital for operation. The os was eroded, the cervix scooped out by disease, so much so that, until informed to the contrary, the other members of the staff thought that a curetting must have been done. In spite of such an advanced stage of the disease, the woman had never had any symptom to draw her attention to it.

A discussion then arose as to the best method of operation. Dr. Atherton preferred ligatures rather than clamps, because the latter cause more or less death of the tissues which they grasp, and thus make healing slower. The vessels are as easily controlled, and secondary hemorrhage is less likely to occur.

Dr. Allen Baines had done the operation but once. The fatal result in that case he ascribed to the forcipressure used. The ligature is certainly very tedious, yet it is to be preferred. In point of rapidity of operation, the advantage is all with forcipressure. He believed a mistake was made in the length of time the forceps were left on. They should not be left on longer than twenty-four hours; if left on longer, secondary hemorrhage is more likely to occur.

Dr. Cameron's greatest objection to forcipressure was that it necessitated an incomplete operation; that is, the vaginal cavity is not shut off from the abdominal. It is true that there is a danger of adhesions forming between the bowels and the raw surface. This rarely occurs however. With the ligature peritoneal edges can be drawn together and the vaginal later on. Acting on the advice of the late J. B. Hunter, of New York, he was in the habit of leaving on the forceps for at least forty-eight hours. Secondary hemorrhage might occur from removing the forceps too soon, as well as too late.

#### EXTRA-UTERINE PREGNANCY.

Dr. Strathy reported the case of a multipara, æt. 31, who during the summer had been twice to consult him for what were thought false pains. These were relieved by half-drachm doses of paregoric. Auscultation at that time discovered two foetal hearts. On 2nd September a child was born at full term. Examination showed the uterus to be empty, but another living child within the abdomen. The next day a laparotomy was done, the incision being made three inches to the left of the linea alba. The head of the child was found adherent to the mother's

colon. The child's third finger was strangulated by the omentum. The cord was tied, but very free hemorrhage set in, controlled as far as possible by packing the cavity with cyanide gauze, and by the application of forceps. The child died during the operation; the mother two hours afterwards. The placenta was attached to the anterior abdominal wall; its posterior attachment could not be made out. The child was free in the abdominal cavity, as shown by the adhesions to bowel and omentum. There was nothing to show a ruptured tube.

Dr. Atherton asked if the child in the abdomen was as well developed and of the same apparent age as the uterine one. Would it not have been better to have deferred the operation until the woman had recovered from confinement?

Dr. Peters asked if there was any hemorrhage at the point of attachment of the head. It was impossible to conceive of a case in which the oval membranes were entirely absent. They might have been so atrophied as to easily escape discovery.

Dr. Cameron said that there is a succession of formation and disappearance of these membranes, but they give way, and are scarcely to be found at the time of operation. As to the time of operation, the danger from septic infection perhaps counterbalances the danger from exhaustion due to labor. The placenta certainly should not be meddled with unless one can certainly control the hemorrhage. The site of the placenta will, of course, settle this. To both tan and disinfect by dusting in tannic acid and salicylic acid is the best way to treat the retained placenta. Spiegelberg reports twelve cases of abdominal pregnancy, so that such a pregnancy is possible. He asked whether the pains of the extra-uterine labor had ceased. From the history it was evident that these had occurred, and, no doubt, occurred when the amniotic membranes ruptured.

Dr. H. A. Machell asked whether there had not been some signs of rupture of the tube during the second, third, or fourth month; viz., colicky pains; hemorrhage for a few days.

Dr. Macdonald thought this a case of tubal gestation which had ruptured into the broad ligament and then into the abdominal cavity.

Dr. Strathy said that he had been unable to



obtain an autopsy. The children were of full term, and of equal development. There were no granulations on the head; hair was growing on the part of the head attached to the bowel. The finger was, with a sponge, easily separated from the omentum. The child's lower jaw was elongated, probably by pressure. About the twelfth week the woman did lose blood, and thought she had had a miscarriage.

TRANSACTIONS OF THE FOURTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Held in New York City, September 17th, 18th, and 19th, 1891, at the Academy of Medicine.*

*(Abstract; continued from page 533.)*

SECOND DAY—MORNING SESSION.

The President, Dr. A. H. Wright, of Toronto, in the chair.

Dr. M. B. Ward, of Topeka, Kan., spoke on

REMOVAL OF THE UTERINE APPENDAGES, WITH RESULTS.

He prefaced the report of his cases by saying that operation for removal of uterine appendages is truly missionary work in Kansas. He performed the second operation of this character done in the State, February, 1890.

He then made a brief report of fifteen cases, in which he gave a history of the patient before the operation, the character of the operation, and the results at the time of writing the paper.

Three deaths were recorded, his first, third, and eleventh cases terminating fatally. Only one of the three was caused by the operation, and in that case the previous condition was deplorable. The reports of the cases were interesting and the results gratifying. Some of the conditions were extremely grave before the operation, and yet recovery in most of the cases was satisfactory.

Dr. Joseph Price, of Philadelphia.—We all know how satisfactory the results have been of late with this class of cases in dispensary and in public practice. We also know how distressing the results have been among the more wealthy, where harm follows from the delay due to treatment by rest and every other known method before resorting to radical measures.

Our mortality among the rich varies between six and ten per cent. higher than among the poor, and there is no excuse for such a difference. A pus tube, an abscess in the pelvis, a pus accumulation in the axilla, under the deep tissue anywhere, should be removed. The treatment is precisely the same. Good surgeons throughout the world will trephine for an accumulation of pus not larger than a hazel nut. Surely, if it holds good in brain surgery, it should hold good in pelvic accumulations. Again, just this state of affairs is common

in all branches of abdominal surgery. It is so with gall stones, hepatic accumulations. It is so notwithstanding we have had many years of special pleading, many voices crying in the wilderness—such men as Bantock, Keith, Tait, Thornton, and others, pleading specially for early ovariectomy. We find large numbers of neglected cystomata, and the mortality remains higher than it should in that class of cases.

Dr. E. W. Cushing, of Boston, said he appreciated and believed every word that Dr. Price had uttered. The bad cases that he had seen were the ones that had been neglected; early operations had done well. Allowance must be made for the position of a man with his elders against him. It is dangerous for one to get too far ahead of the sentiment of the community. The weight of the teaching and the intent of every operator, as far as he can carry his people along with him, should be to operate early.

Dr. Mordecai Price, of Philadelphia, thought many of the delays were attributable to the cowardice of the surgeon. We all should know that when we approach a question where a life is involved we should boldly consider every side, even though, if we operate and the life is lost, the community say that it was the operation. If we refuse to operate and death comes, we feel and know that it was but a consequence of our own cowardice. It is our business to go to these cases, and when we discover that pus exists to remove it, and the sooner the better.

Dr. Joseph Price, of Philadelphia, said that gonorrhea is unquestionably responsible for a majority of these cases. Gonorrhea is no longer treated by intelligent physicians. Every drug store in the land is a clap shop, probably as well in Boston as Philadelphia. It is a neglected disease. The sequelæ, in the male as well as in the female, are very much more marked than they were several years ago when the disease was treated by the educated physician.

Dr. C. A. L. Reed, of Cincinnati, extended his congratulations to Dr. Ward for his good paper, which is certainly to be recognized as pioneer work in the great State of which he is a citizen. He was impressed with the idea that gonorrhea in woman is a very serious affair. It progressively invades the mucous tract, climbing the vaginal wall, climbing the endometrium, invading the sanctum sanctorum of the female anatomy, and producing its most serious ravages upon the uterine appendages.

Dr. Ward, closing the discussion, thanked the Fellows for their kind compliments. In the West it is extremely difficult to get consent to perform these operations except as a last resort.

Dr. Joseph Price, of Philadelphia, read a paper upon

A CONSIDERATION OF EMMET'S LAST OPERATION FOR SO-CALLED LACERATION OF THE PERINEUM, OR PROLAPSE OF THE POSTERIOR WALL OF THE VAGINA FROM LOSS OF FASCIAL SUPPORT, OR MUSCULAR RELAXATION, OR TEAR.

At the meeting of the American Gynecological Society in 1883, when Dr. T. A. Emmet presented his paper on the "Etiology of Perineal Laceration, with a new method of Operation for its Repair," it was evident, in the words of an eminent gyneco

logist, that the members of the society were very much at a loss to comprehend the steps of the operation as described by its illustrious originator. It is still not understood generally in Philadelphia, while at the present time we rarely hear of any one's performing the true Emmet operation unless it has been improved by some supposed modification. These modifications are for the most part meretricious. The Emmet operation seems to fulfil every indication for the restoration of the damaged perineum, far better than any other operation before or since devised, not excepting the so-called flap-spitting or Tait's operation, over which so much furore has lately been raised. The value of the operation has not been recognized because the published reports of it have been so meagre and so little descriptive, excepting some explanations of modifications, that the very idea of the operation has not been grasped except by those who, like the writer, have been fortunate enough to have Emmet personally demonstrate the operation and its advantages. Unfortunately, his original pamphlet was rather confusing than instructive and explanatory to those not already comprehending the operation. A drawing was necessary for the exact understanding of the successive steps of the operation. In several cases in which Emmet's operation was performed the writer had the assistance of Dr. J. Madison Taylor, who has sketched the appearance of the various stages. The theory of the mechanism of laceration is original with Emmet. He believes that the damage that leads to the severe consequences of loss of support to the pelvic diaphragm is principally in the deep layers of the pelvic fasciæ, a separation of the fibres of those fasciæ from the outlet of the vagina. The soft parts of the vagina are crowded up in advance as the foetal head passes. When the head of the child is forced down upon the so-called perineal body, the perineal tissues are stretched transversely before the head appears at all at the vaginal outlet. The so-called perineal body is attached principally at the two rami of the ischia through the strong and almost inelastic ischio-perineal fascia. When the head, following the sacral curves, crowds down the vaginal tissues before it, it meets its almost entire resistance from a lack of extensibility in these ligaments. If the force is severe enough they will separate, not by a tear from the fourchette downward, but by a separation of those fibres within the mucous membrane from their insertion without and below the vaginal orifice. It is the pelvic fascia that supports the vagina, and this fascia is often separated from its attachment to the vagina, or latterly from one or both rami at the passage of the head during parturition. The tear at the orifice of the vagina is of infinitely less importance than is the rupture of the ischio-perineal fascia. These fasciæ preserve the proper resilience of the floor of the pelvis. This removed, the anterior and posterior walls of the vagina have lost their support, and they must prolapse through the now weakened vaginal ring. It is well known that rectocele occurs constantly in patients in whom the fourchette has not been torn. A vagino-perineal laceration may pass around the sphincter ani. It is easily shown that the perineum is a thin diaphragm, not a body of firm fascia, muscle, or connective tissue. The rupture, which may or may not have been submucous,

is not in the median line, but has been more severe on one side than on the other. In Emmet's expressive illustration, the bag has lost its puckering-string. The prolapse is evidently due to a want of resisting power of the pelvic floor. Other operations have been previously devised to meet the same indications, such as those of Simon, Hegar, Hiidebrandt, Freund, Bantock, Baker Brown, and Emmet's trefoil operation. Some of these restored the perineum so that it was even longer than before, but failed in its real intention, since little by little the rectocele again prolapsed through the narrowed outlet to its original condition. A great advance was made when the denudation was extended so as to include a portion of the rectocele and so restore by cicatricial healing the perineal body. The results were frequently anything but happy. The old operations aimed to replace the perineal body by a new structure built from the adjacent parts; but when a perineum is lacerated it is not destroyed. If we can bring together the ends of the ruptured ischio-perineal ligaments, we will absolutely restore the supporting power of the perineum. Emmet's last operation aims at removing the superfluous vaginal mucous membrane at the vulvo-vaginal orifice, continuing at the same time the denudation along the line of the original rupture. As this line extends usually along the two sulci, the denudation assumes rudely the form of a crescent, whose convexity is the boundary of skin and mucous membrane of the vulva, while the concavity is marked by the summit of the projecting rectocele, and the cusps extend up the lateral deep sulci and posterior wall of the vagina. Finally he introduces sutures entirely within the vagina, beginning at the apex of a cusp, and closing by bringing the two denuded edges of the cusp or sulcus together. After the insertion of the crown stitch, one or more superficial stitches are sometimes necessary, according as there has been greater or less laceration. The essential landmarks of the operation—to wit, the crest of the rectocele or its most projecting part, and the lateral mucous membrane at the highest point to which it is intended to carry the denudation—are not to be lost sight of or changed as the operation proceeds. After the sulci have been closed, when the crown stitch is introduced, the inside stitches entirely disappear. The after treatment is simple—rest, catheterization if necessary. The bowels are to be kept easily open. The writer has yet to see the slightest inflammation—cellulitis or phlebitis—from the operation. The stitches are removed at the end of six or ten days, except those in the sulci. These latter are removed in the second week. This is best done by partially everting the vagina by a finger introduced into the rectum.

This operation most nearly approximates the natural perineum. The great degree of success attending the operation is alone sufficient to recommend it primarily in all lesions of the perineum.

Dr. L. S. McMurtry, of Louisville, thought the importance of the subject increased by the great number of cases there are of perineal rupture coming up daily in the practice of gynecologists, and the large amount of imperfect work that is done in this branch of surgery, and the incongruous advice that is given to patients upon this subject. The general surgeon does a good deal of this work,



and it is very often the case that the skin only is united, and in all probability the skin is attached away up the vulvo-vaginal fissure, higher than it was in the natural condition; and in many instances the physician, finding that the fourchette is not torn, assures the woman that her symptoms are due to nervous exhaustion and that there is no laceration of the perineum. It has been demonstrated this morning that you may sew together the skin without restoring the pelvic floor, and you may have the pelvic floor entirely destroyed without any rupture of the skin externally. Those are points which have been emphasized in the paper, which are not appreciated generally by the profession in regard to these injuries. The great difficulty in regard to the popularity of Emmet's improved operation for restoring the pelvic diaphragm is that it is difficult to clearly appreciate the operation without seeing it executed, and that it is very difficult to do the operation without giving it thorough consideration.

Dr. W. H. Wathen, of Louisville, thought Dr. Price had made an important subject unusually interesting because of the practical manner in which he had presented it, and because of the vast experience he had had in doing successful work in this department of surgery, which makes all he says practical. In the main, he fully agreed with him in his ideas and in his suggestions as to the proper means of operating. In operations where the tissues are torn down near the sphincter, with the anterior rectal wall presenting down in the vagina, he was practically in accord with the suggestions of Dr. Price, excepting that the procedure might be simplified by splitting the tissues between the rectum and the vagina latterly instead of denuding the mucous membrane. The splitting process can be accomplished by an experienced operator in less than half the time of the denuding process, and with not less than half the inconvenience from hemorrhage. The cardinal principle which should control us in this operation is to expose the ends of the torn muscles and the ends of the torn fascia, superficial, middle, and deep, and a failure to expose all these so that they may be brought together and held in that position necessarily results in a corresponding failure in the result of the operation.

We ought to impress upon the general practitioner and the general surgeon, as well as the specialist, the importance of attending to these cases wherever they are met, but, above all, we ought to impress upon the profession the necessity of attending to these cases when they occur. There is no operation of any magnitude in the whole range of gynecic surgery that has the element of simplicity so perfect and the universal results so attractive as the operation for complete or incomplete laceration of the perineum, if done immediately after the accident has occurred.

Dr. J. F. W. Ross, of Toronto, believed that the denudation of the tissues outside is superfluous, but is necessary in the vagina, and that we can combine the operation of denudation in the vagina with flap-splitting in the perineum, exactly as Dr. Wathen had said.

Dr. Mordecai Price, of Philadelphia, spoke strongly in favor of the Emmet operation. He believed with Dr. Wathen that we have no business to know anything about secondary perineal work. It ought to be the business of the physician to have

his materials with him, even if the case is a simple one, because accidents will occur in the best regulated households in that particular; and it ought to be his business to at once apply his sutures, because union is almost invariably by first intention in these primary operations, and there is no better way than to use the silkworm-gut sutures, passing them as Dr. Emmet recommends. The tear in nine cases out of ten is in the right or left sulcus.

Dr. H. T. Hanks, of New York, said he had been associated more or less intimately with Dr. Emmet in the Woman's Hospital for the last thirteen years, and had watched the development of the operation. He had been pleased to have the subject brought up for that very reason, because he has not only done good work in teaching us how to operate on a lacerated cervix, but has also given us some points on the operation on the perineum that we had not considered before, and which, when carried out to the letter as he has taught us, and as those of you who have seen him operate have been taught, give entirely satisfactory results. He believed the operation to be a successful one when well done and done as Dr. Emmet had taught.

Dr. Joseph Price, of Philadelphia, closing the discussion, said: Some of us do the operation perhaps a little more than Dr. Emmet does—just a little more—but it all belongs to him. He taught us how to denude and everything that is good in plastic surgery. Some of us go a little further than Dr. Emmet. Dr. Hanks has made a perfect illustration of Dr. Emmet's operation. Many of us differ in this particular. Dr. Emmet does not go as high in the sulci as some of his pupils with the denuding. Dr. Emmet makes a triangle with a tenaculum; we make it with a denudation, and go into the apex of that sulcus. We give the woman as much pelvic floor as possible. There are very serious doubts as to whether a flap-splitting operation ever restores a sphincter. I have yet to see the first one, and know at least half a dozen women in Philadelphia who have had the flap-splitting operation. They have incontinence of gas and feces when they have a diarrhoea. I have seen men do it and absolutely miss, in their denudation and everything else, the dimples of the retracted sphincter, or half-moon. There are very few men in this country that can map out the sphincter in a perineal tear through the sphincter. Dr. Emmet, if you will follow him, will place his fingers on the sphincter and make you trace a hard, iron-like sphincter all the way round. He again has taught us all we know about sphincter tears that is worth knowing. Emmet's inside perineal operation with the sulci sutures closed is an operation which completes the woman's comfort. He need not put in those inside sutures, as far as the perfection of the operation and the comfort of the patient are concerned. The operation is complete when he completes his sulci work.

The President then delivered his annual address (See page 494).

Dr. W. W. Seymour, of Troy, read a paper on

#### A CASE OF CHOLECYSTOTOMY AND CHOLELITHOTRITY; DEATH FROM "LA GRIFFE" THE TWENTY-FIRST DAY.

The gall bladder was incised and fine stones removed from it, and one stone in the common duct crushed by forceps applied to the duct. The crush-



ing was done because the wound was so deep that the difficulties in the way of an exact suture of the duct in case of excision of the stone were enormous. At the autopsy, when death resulted from an intercurrent attack of grippe, the abdominal wound, save at the drainage opening, was firmly united, the adhesion of the gall bladder perfect, and there was not the slightest evidence of suppuration, inflammation, or ecchymoses, in or about any abdominal organ. The inferences drawn were: (1) That in large, fat, and flabby bellies crushing is safer than excision with its risk of imperfect suture. (2) That excision should only be a method of election where an exact suture is beyond question. (3) That if there is any suspicion of injury to the duct, drainage should be inserted to the suspected point, and, if needed, the abdominal cavity protected by gauze tampons. (4) That in case of stones projecting into or overlying the duodenum, the duodenum may be incised and the stone, if projecting, broken up, or the duodenal portion incised and the stone crushed or delivered intact, as Dr. Charles McBurney has recently successfully done with a stone as large as a pigeon's egg.

Dr. A. Vander Veer, of Albany, read a paper entitled

REPORT OF CASES OF CHOLECYSTOTOMY, WITH  
SPECIAL REFERENCE TO THE TREAT-  
MENT OF CALCULUS LODGING  
IN THE COMMON DUCT.

He said: In presenting this paper as a contribution to the surgery of the gall ducts, I shall refer somewhat to the surgery of the gall bladder. Yet my chief desire is to get from you a discussion and your views regarding a line of treatment in cases where we find a contracted and perhaps almost obliterated gall bladder, or where the common, cystic, or hepatic ducts are entirely closed by lodgment of a calculus, or stenosis from other causes. He then presented a group of three cases illustrating these points, in which he had operated twice successfully, and exhibited specimens removed in each. From his experience in these and other cases he offered the following: This operation is not very difficult, and the results favorable beyond a doubt; but does not this method deter us in some cases from pushing ahead and relieving cases where practically no gall bladder is to be found? Are we not too conservative at times where we have stenosis, severe adhesions, and apparently no gall bladder present?

The intent of this paper is to deal only with those cases where there is an obstruction of the ductus communis choledochus, the cystic or hepatic ducts, from any cause whatever. Cholecystotomy, with suture of bladder walls to parietal wound, when the viscus is fairly well developed, is not a serious operation. Primary and secondary opening of the gall bladder I mention here to emphasize the fact that I believe the latter is always to be condemned, for the following reasons:

1. It is always necessary, before the closure of the abdominal wound, that the gall bladder be opened and emptied, as it is often impossible to recognize conditions until then which will require manipulations, not only within the gall bladder, but also within the abdomen.

2. Prolonged obstruction in the intestinal portion of the common duct may lead to its dilatation, together with that of the gall bladder, and the destruc-

tion of anatomical outlines. Biliary calculi lying in the common duct, in the hepatic or at the mouth of the cystic duct; stricture of the ducts from local ulceration (exceedingly rare), or occlusion of them from external causes, as cancer of the pylorus or the last portion of the pancreatic duct, all require treatment for relief beyond either cholecystotomy or cholecystectomy.

I believe it is possible to freely loosen adhesions that have formed in the region of the gall bladder, and in all cases of severe traumatism we should not hesitate to make use of the tamponade of iodoform gauze and drainage, or employ the method so clearly recommended by one of our Fellows, Dr. Morris.

Dr. H. O. Marcy's paper on "Relief for Biliary Obstruction" defines the steps of the operation very closely, particularly in relation to suturing of the incision made in the gall duct. The operative technique may be varied as follows, by:

1. Dislocation of the calculus *en masse*, either into the duodenum or into the gall bladder.

2. Cholelithotripsy, either by crushing through the walls of the duct with padded forceps or fingers, or from within the gall bladder by means of the needle or fine probe, followed by removal by way of the gall bladder or intestinal canal.

3. Breaking of the calculus by the introduction of strong needles through the walls of the duct, and subsequent dislodgment of the fragments.

4. Cholecystenterostomy according to Von Winwarter, or modifications of it as have been suggested by Gaston in his elaborate experiments upon dogs.

5. Incision of the gall duct and removal of the calculus, with subsequent suturing of the incision in the duct.

The application of these methods conflicts with some notions in surgery which, to my mind, are altogether fallacious. The first is that sutures can never be applied to the gall bladder and ducts with safety. The first cholecystotomy was followed by suture and recovery.

The second notion is that the healthy biliary secretion always causes peritonitis when free in the abdominal cavity. The experience of Schuppel, Bostron; the cases of Paraisse, Sabatier, Thiersch, etc., demonstrate the falsity of this dogma.

We must put these fallacious ideas behind us, as we have many concerning the technique and management of abdominal section. I believe in a wholesome fear of the peritoneum and of throwing around our patients every possible safeguard. I should not like to complete an operation knowing that bile might flow over the intestines, but I believe that such wounds, by proper drainage and iodoform gauze tamponade, can be made comparatively safe for the patient, much safer than the condition for which the operation was done.

Those cases which present the least difficulties are where the calculus can be removed *en masse* by pushing either into the gall bladder after cholecystotomy (preferable) or into the duodenum. The danger of tearing the duct across its diameter, as has already occurred, must be kept in mind, and will somewhat circumscribe the operation of fracture or incision and removal from the intestine.

The second procedure, together with the third, may be employed in suitable cases, but the choice will lie between them and the fifth procedure, that is, incision and removal.

The fourth method of treatment, by establishing a new communication between the biliary ducts and the intestine, must always have a certain utility, especially where it is found that the seat of obstruction (the common duct) is bound down by adhesions and cannot be made accessible.

To one doing abdominal work, I would advise a careful perusal of Dr. Gaston's paper in *The Atlanta Medical and Surgical Journal* in 1884, entitled "Experimental Cholecystotomy."

In France the operation bearing the name of Ven Winiwarter has recently received much attention, and flattering results are reported.

Under the fifth division—that is, incision and suture of the gall ducts—we have, I believe, in many cases a method which promises great success, where heretofore cases have been treated by establishment of biliary fistula, which only relieved for a short time. So far as I have been able to learn, incision of the common duct has been seldom performed in this country. The technique of the operation is as follows: Usual vertical incision from tip of cartilage of tenth rib, made of sufficient length to permit free examination. It may be necessary to complete the operation by making a transverse incision through the right rectus abdominalis. Incision over stone, in line of duct, is made. Fluid behind duct should be withdrawn by aspirator, or sponges placed to protect surrounding parts. First row of sutures continuous, introduced just within serous coat of duct, brought just within the mucous coat, but not involving it: second series Lembert, bringing the serous coat into accurate apposition. Surround drainage tube on all sides with iodoform gauze tamponade, the ends being left in abdominal wound, closing latter with silkworm gut. One or two silkworm gut sutures may be introduced and tied in loop, so that after removal of tamponade they may be tied and abdominal wound more completely closed.

Dr. R. T. Morris, of New York.—There is one method of procedure, in cases of gall stones, so simple that I wonder that anybody has failed to think of it. Gall stones can be dissolved very easily by chloroform, ether, and some of the marsh-gas series. We do not need any forceps. We can remove the greatest element of danger by dissolving them right in place. The operation consists in suturing the gall bladder to the abdominal wall, then waiting for forty-eight hours until adhesion has taken place. The cases of greatest danger after operation are those followed by leakage of bile or mucus or the fermenting contents from the gall bladder into the abdominal cavity. Therefore the ideal procedure consists in first suturing the gall bladder to the abdominal wall, waiting until adhesion takes place, opening the gall bladder, and with a syringe injecting down upon the gall stones, at any time you please, a week or a day or a month after, a chemical that will make a solution of the cholesterin quickly and safely without imposing the grave danger upon the patient of crushing, bruising, or injuring the common duct. I am making experiments in this line to find some non-irritating solution which will dissolve the gall stones easily.

Dr. L. S. Pilcher, of Brooklyn, recognized the fact, as all surgeons do, that the gall bladder has become a fit subject for surgical interference, and that, with the rapidly increasing experience which is being gained in work upon that organ, we shall

soon have well-established indications for not only examining the organ, but also for the different classes of operations which we shall be called upon to do for the relief of the conditions which we find present in it. The ideal cholecystotomy, in which the organ is exposed, is opened, is evacuated, is closed and dropped back into the abdominal cavity, suggests itself as an operation extremely desirable to be done, if the conditions are such as to make it feasible to do it. The extirpation of the gall bladder has been done, and will at times be found necessary if we are to relieve the conditions which have made operation of any kind necessary. The difficulties which attend the operation are great, and it can only be rarely that a surgeon will feel justified in undertaking its accomplishment. The opening of the common duct and the removal thereof of a gall stone have been described to us this afternoon. The successful performance of the operation has again and again been demonstrated to us. The possibilities of relief which are open by means of that should always be present in the mind of the surgeon. He then presented and discussed some specimens of gall stones.

Dr. Kellogg, of Battle Creek, reported a number of interesting cases of operation upon the gall bladder.

Dr. M. B. Ward, of Topeka, stated that he had done the operation twice on a dog, removing the gall bladder entirely. His first operation was a failure, death occurring from general peritonitis on account of some defect in the operation. The next dog got well and very fat, and was subjected to three other operations on the intestines. He inquired whether the gentlemen found it easy to bring the gall bladder up and attach it to the parietes. He found it difficult unless the gall bladder was enlarged.

Dr. Seymour, closing the discussion on his part, said, with regard to the attachment of the gall bladder to the abdominal wound, the method pursued by Mr. Tait is very satisfactory, particularly in cases of contracted gall bladder. That is, not to attempt to bring the gall bladder up to the level of the skin, but to suture the gall bladder with an interrupted buried silk suture at an intervening height in those tissues, taking a sufficient number of interrupted sutures to give strong and firm coaptation of the structures. He considered the matter of dissolving gall stones within the gall bladder as still *sub judice*. In view of that, the operation of Tait—opening the gall bladder with establishment of a fistula—is the most rational operation. He considered it very possible that there would be a recurrence of the disease with the persistence of the constitutional condition. He considered the silk suture preferable in this operation to any of the animal sutures.

Dr. Vander Veer, closing the discussion on his part, said that, in reference to attaching the gall bladder to the parietes, he would only add this, that before the gall bladder is attached to the incision, and before it is opened, we should make a very careful examination of the common duct and be very certain as to the condition of the pancreas.—*American Journal of Obstetrics*.

(To be continued).

DR. W. H. B. ATKINS has been appointed Associate-Coroner for the City of Toronto.

## Book Reviews.

*International Clinics.* A quarterly of clinical lectures on medicine, surgery, gynecology, pediatrics, neurology, dermatology, laryngology, ophthalmology, and otology. By professors and lecturers in the leading medical colleges of the United States, Great Britain, and Canada: edited by John M. Keating, M.D., and J. P. Crozier Griffith, M.D., of Philadelphia, and Drs. Mitchell Bruce and David Finlay, of London. July, 1891. Philadelphia: J. B. Lippincott Co.

The second volume of this valuable work contains its full complement of excellent clinical lectures. The first chapter is a biological sketch of Dr. Joseph Leidy, who was one of the most highly honored of American scientists. Next comes a lecture in two cases of ulcerative endocarditis by Dr. Pepper, of Philadelphia, which is very interesting and well illustrated. Then follow lectures on general false ankylosis, treatment of typhoid fever, nephritis, angina pectoris, chronic diffuse nephritis, asthma, indigestion, lead colic, hernia in groin, stricture of urethra, tubercular disease of the skull, stab wound of the chest, scirrhus of the breast, sarcoma of the thyroid, litholapaxy, weeping sinew, rapid dilatation of urethra for stricture, ovarian and tubal diseases, management of labor, endometritis, uterine myomata, displacements of uterus, myoma complicating pregnancy, removal of tubes and ovaries, tabes, and many others, by Drs. Bridge, Wilson, Peabody, Sansom, Tyson, Mays, Nathan Davis, Andus, Tiffany, Simes, Roswell Park, Conner, Ashhurst, Bryant, Deaver, Gerster, Sturgis, Reamy, Palmer, Gill, Wylie, Montgomery, Grandin, Munde, Skene, etc. Dr. Skene, in his valuable lecture on the removal of tubes and ovaries, honors Dr. Jas. F. W. Ross, of Toronto, by referring to him as "one of the best British authorities living, one of the very best of the age." The lectures, taken as a whole, are quite up to the standard of the first volume, to which it was our pleasure to refer in a former issue in highly commendatory terms.

*A Practical Treatise on the Diseases of Women.* By T. Gaillard Thomas, M.D., LL.D., Emeritus Professor of Diseases of Women in the

College of Physicians and Surgeons, N.Y., and Paul F. Munde, M.D., Professor of Gynecology in the New York Polyclinic. New (sixth) edition, thoroughly revised and rewritten by Dr. Munde. In one large and handsome octavo volume of 824 pages, with 347 illustrations. Cloth, \$5.00: leather, \$6.00. Philadelphia: Lea Brothers & Co., Publishers. 1891.

The early editions of Thomas' book were probably more popular than any of the text books on gynecology which were contemporaneous with them. Ten years, however, forms a long era in modern gynecology, and the fifth edition, having been published in 1881, was old enough to have nearly outlived its usefulness, even though it contained much that was good and much that will never grow too old to be well worth reading. This sixth edition retains all that is valuable in the former book, with sufficient changes and new matter to include ample information respecting all the advances of recent years. The choice of Dr. Munde to revise and rewrite a large portion of the work was a very fortunate one. He is well known as an able teacher and writer on this subject, and he possesses a large amount of good judgment, which has enabled him to separate the chaff from the wheat in things gynecological. We can confidently recommend the book as an admirable one in all respects.

## Personal.

DR. LAFFERTY, of Calgary, N.W.T., was in Toronto, on November 6.

DR. OSLER, of Baltimore, paid Toronto a short visit in November.

DR. T. E. BENNETT (Toronto, '91) is practising in Rocklyn, eleven miles from Meaford.

DR. J. F. W. ROSS, of Toronto, attended the meeting of the Southern Surgical and Gynecological Association, as an invited guest, in November, and read a paper, which will appear in our next issue.



## Therapeutic Notes.

TREATMENT OF TYPHOID FEVER.—M. Hayem (*Concours Médical*) gives, in one of his lessons on therapeutics, a new method of treatment of typhoid fever, which he has used with excellent results for several years. It consists in the exhibition of lactic acid as an intestinal disinfectant, and as a means of controlling the diarrhœa. He rejects all internal antipyretics, but reserves the use of baths. Lactic acid, with or without baths, according to the indications, is the regular treatment followed by M. Hayem. He prescribes the acid in the form of lemonade :

R. Acidi lactici 15.0–25.0 grms. (3iv–vj).  
Syrupi simplicis 200.0 grms. (3viss).  
Aquæ . . . . 800.0 grms. (3xxvij)—M.  
Sig.: To be taken in the course of twenty-four hours.

If there is gastric intolerance, the lemonade may be diluted with seltzer water.

In slight cases, M. Hayem prescribes 15 grammes (3iv) of lactic acid daily. When the evening temperature reaches 40° C. (104° F.), the dose is increased to 20 grammes (3v). In grave cases, with hyperpyrexia, 20 to 25 grammes (3v to vj) of lactic acid are given with cold baths (20° C.—68° F.), or baths in water gradually made cold. Brandy is given if adynamia is present. When the fever declines the daily dose of lactic acid is gradually diminished, but is given in daily doses of 5 grammes (gr. lxxv) even during the first days of convalescence.—*Journal d'Accouchements*.—*Satellite*.

A TREATMENT FOR THE LARYNGITIS OF SINGERS (M. Faulkner).—This treatment according to the author, is intended for the acute laryngitis of persons who fatigue their voice.

A purgative is administered, we then use inhalations of cocaine, spray 1 per 100, and give internally a mixture of ammonia and tincture of aconite.

From time to time the patient should make use of the following pastille :—

R. Morphine . . . . .  $\frac{1}{80}$  grain.  
Hydrochlorate of cocaine  $\frac{1}{80}$  "  
Tincture of aconite . . . 3 drops.  
Powdered althæa . . . 4 grains.  
Sngar, q. s.  
For one pastille.

When the acute symptoms have subsided, we prescribe strychnine, in doses of  $\frac{1}{120}$  grain, before meals. The author even repeats this dose at the time that the actor enters *en scene*. The action of the strychnine is efficacious, nevertheless we can understand that this medicament should be used with caution.—*La Méd. Moderne*.—*Times and Register*.

SCHMIEDEN has found diuretin useless in the dropsy of cirrhosis of the liver, and in tubercular peritonitis. In valvular heart disease and in arterio-sclerosis it proved itself a very useful diuretic, increasing not only the water, but also the solids of the urine. It may possibly cause vomiting. In two cases of nephritis, hematuria occurred. In a not inconsiderable number of cases, there was observed increased frequency of the pulse, with a tendency to irregularity; this should cause discontinuance of the drug.—*Centrl. f. Med. Wissenschaft*, 1891.

DR. E. L. KEYES, of New York, says, in *Four. Cutaneous and Genito-Urinary Diseases*, that he now uses diuretin in every case of urethral or bladder operation. He gives 60 grains of salol a day for forty-eight hours before operating, and on the day of the operation begins giving 10 grains of diuretin every four hours, continuing it for forty-eight hours. Since using the diuretin he has never seen a chill or suppression of urine following an operation.

MATTISON, in the *St. Louis Medical and Surgical Journal*, recommends cannabis indica for the opium, chloral, and cocaine habit. Failure with hemp is largely due to inferior preparations. It should never be called inert till full trial with an active product proves it. Another cause of failure is too timid giving. For many people small doses are stimulant and exciting, large ones sedative and quieting.

DEODORIZATION OF IODOFORM BY CREOLIN.—A patient, suffering from a bone-felon, applied for treatment to Dr. L. Vazci (*Rundschau*, May, 1891), who wrote for a salve consisting of iodoform, two parts; creolin, one part; vaselin, twenty-five parts.

On visiting the patient the next day, there was not the slightest odor of iodoform.—*Virginia Medical Monthly*.

FORMULA FOR WHOOPING COUGH.—Talamon, in the *Méd. Moderne*, gives the following formula for whooping cough:—

R. Terpini hydrati . . . grammes 1.0-1.5  
Antipyrini . . . . . gramme 1.0  
Syr. aurant cork . . . grammes 50.0  
Aque Tilie . . . . . grammes 60.0

M. et Sig.: One-half to one teaspoonful frequently during the day for a child from one to four years of age.—*Archives of Gynecology*.

FORMULA FOR THE TREATMENT OF UNCONTROLLABLE VOMITING OR GASTRALGIA:—

R. Cocaine . . . . . 0.10  
Antipyrin . . . . . 1.00  
Aq. Destil. . . . . 90.00

D.S.: A teaspoonful every one-half to one hour.—*Medical Review*.

TO RELIEVE NAUSEA AND VOMITING.—A writer in the *Therapeutic Gazette* states that a mixture of 1 part of menthol, 20 parts of alcohol, and 30 parts of simple syrup, will relieve nausea and vomiting—sometimes even the obstinate vomiting of pregnancy—if given in teaspoonful doses every hour.—*Archives of Gynecology*.

## Miscellaneous.

THE next meeting of the Medical Society of the State of New York will be held at Albany, February 2, 3, and 4, 1892. Dr. Seneca D. Powell, No. 12 West 40th Street, New York, Dr. James D. Spencer, of Watertown, and Dr. Franklin Townsend, No. 2 Park Place, Albany, have been appointed the Business Committee. Any communications regarding papers or any matter pertaining to the business of the Society which should properly come before the Business Committee, should be addressed to Dr. Seneca D. Powell, 12 West 40th Street, New York City.

THE Mississippi Valley Medical Association held its seventeenth annual session at St. Louis, October 14, 15, and 16, 1891, President, Dr. C. H. Hughes, of St. Louis, in the chair. Dr. C. A. L. Reed, of Cincinnati, was elected President; Dr. E. S. McKee, of Cincinnati, re-elected Secretary; Dr. C. S. Bond, of Richmond, Ind., and Dr. J. H. Stucky, of Louisville, Vice-Presidents; Dr. Joseph Ransohoff, of Cincinnati, Chairman of the Committee of Arrangements. The next meeting is to be held in Cincinnati, October, 1892.

THE AMERICAN GYNECOLOGICAL JOURNAL.—The journal, formerly known as the *Journal of Gynecology*, is now published under the name of the *American Gynecological Journal*, with Dr. Charles N. Smith as editor, and an able staff of associate-editors. It is devoted entirely to gynecology, obstetrics, and abdominal surgery, and, although only a few months in existence, shows promise of marked success.

EXCISION OF PART OF THE RIGHT LOBE OF LIVER.—Dr. W. W. Keen, of Philadelphia, removed, October 9, from a patient a considerable portion of the right lobe of the liver for the excision of a cystic tumor, the mass removed being about two-thirds the size of a man's fist. According to the latest reports (*Med. News*) the patient was doing well and was expected to recover.

AN enterprising lady has been making investigations upon the question of matrimony in regard to her sex. She finds that the highest marriage rate is among trained nurses, and impartial observation would rather tend to support the statement that this is the best field for matrimony which the fair sex enjoys.—*Birmingham Med. Review*.

DANGER OF DOMESTIC PETS.—A French scientist says that domestic pets carry at least thirty per cent. of the contagious diseases from house to house. Probably dogs and cats carry the most.

EMPTYING A DISTENDED BLADDER.—Complete emptying of a distended bladder exposes the patient to the danger of vesical hemorrhage. Stop when the urine ceases to escape in a jet.

ARSENIC IN OLD PEOPLE.—Mr. Jonathan Hutchinson, of London, England, has a poor opinion of the administration of arsenic for skin disease in elderly persons and seldom prescribes it for such.

IT is reported that the Chambers Street Hospital in New York will be rebuilt and enlarged.

A FACULTY OF MEDICINE is about to be established in Constantinople.

# THE CANADIAN PRACTITIONER

FORMERLY "THE CANADIAN JOURNAL OF MEDICAL SCIENCE."

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A. H. WRIGHT, B.A., M.D. Tor., M.R.C.S. England.

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TORONTO, DECEMBER 16, 1891.

## Original Communications.

### THE NEW FIELD IN ABDOMINAL HYSTERECTOMY FOR FIBROIDS.\*

BY JAMES F. W. ROSS,

Lecturer on Abdominal Surgery, University of Toronto; Gynecologist Toronto General Hospital and St. John's Hospital for Women; Fellow American Association of Obstetricians and Gynecologists.

In the September number of the *American Journal of Obstetrics* I gave some of my views regarding the old and unsurgical operation of supra-vaginal amputation of the uterus for fibroids. From that I will quote:

"The great difficulty before us in the abdominal hysterectomy of to-day is the separation of the extra-abdominal pedicle. After many years the extra-peritoneal pedicle of ovariectomy was replaced by the intraperitoneal pedicle, the one now generally adopted. But two facts preclude the possibility of such a treatment for myomata, namely, the impossibility of controlling hemorrhage by ligating the stump, and the danger of necrosis of the pedicle on the proximal side of the ligature when the pedicle is formed of myomatous tissue. This hemorrhage occurs with the extra-peritoneal wire clamp; this necrosis also occurs with the extra-peritoneal wire clamp. We must, therefore, give up all ideas of any new treatment in this direction; one line alone remains: A return to and an improvement of the old 'Freund' operation."

These were my words at the meeting of the Huron Medical Association in July, 1891. I then demonstrated, on a model made of an inflated and covered rubber bag, my ideas in the direction of a new operation. Convinced that in suitable cases the vaginal wall shutting off abdomen from vagina could be readily and safely tied with little danger of hemorrhage, I began to think out the best method. To experiment on the cadaver would be unsatisfactory for two reasons: First, the loss of natural elasticity and pliability of the parts; and secondly, the want of a tumor. The operation then outlined read as follows:

"The operator begins by personally disinfecting the vagina with a  $\frac{1}{500}$  solution of bichloride of mercury, so strong that it coagulates the albumen of the superficial epithelial cells. He provides himself with a long thread of strong and tried silk, well boiled, threaded in the eye of a sharp-pointed, blunt-edged perineum needle. This needle must be very firm and stiff, and only slightly curved, and should have a longer handle than usual. He should have practised the stitch on a piece of chamois leather previously, so that he can, without hesitation and without bungling, run a chain suture.

"The operation is now performed in the usual way by tying off the broad ligaments, putting on the temporary rope clamp, removing the tumor, placing a pedicle pin in situ, and adjusting the wire clamp. The rope clamp is then removed and the pedicle rapidly trimmed down to the limit of safety. The assistant can now

\*Read in abstract before the Southern Surgical and Gynecological Association at Richmond, Va., Nov. 11th, 1891.



readily control what is left of the uterus, and can draw upon it and bring the cul de sac of Douglas well in view, or hold it upward and backward and bring the utero-vesical pouch well in view, or draw it to either side to enable the operator to outline the ureters on the opposite side. Now, there is tissue lying close around the cervix, separating the vaginal cavity from the abdominal cavity, that can be readily compressed by hand-tied ligatures, tissue that is not œdematous, and therefore not likely to shrink. The perineum needle can now be accurately carried up from the vagina along and close to the clamp steadied pedicle, to emerge just below the wire of the clamp into the abdomen. One end, the short one, of the thread is now drawn out far enough to leave a good tying end, and the needle, still on the thread, is withdrawn and again lost sight of in the vagina, to reappear one-half inch further to the right. The thread in the groove (whether the front groove or back groove of the needle) occupied by the short end at the last puncture, and now corresponding to the short end, is withdrawn in a loop long enough to leave two good tying ends of equal length, when the loop is cut and the needle is again sunk into the vagina, only to reappear as before. In this manner the whole cervix is surrounded by a chain suture exactly similar to the one I applied to the broad ligament in case 1. This chain suture cannot wound the ureters if made to hug closely the uterine tissue until it emerges just below the wire clamp. The tying loops are now all in the abdomen, the compressing loops in the vagina. These can be interlocked and tied rapidly. With a scalpel inserted close to the wire of the clamp, the cervix can readily be removed. This incision should follow the track of the clamp, and should slope downward and inward toward the known position of the vaginal and cervical junction. During this procedure, the bowels must be kept either up in the abdomen or on the abdomen by large flat warm sponges. . . . The peritoneal edges from between which the cervix has just been cut should be held together with two or three stitches, the vagina packed with iodoform gauze, the abdomen closed, and the wound dressed in the usual way."

After publishing this article my attention was drawn to a very interesting paper by Eastman,

of Indianapolis, on this subject. Eastman's operation was performed by using a vaginal staff, on which he cut as one cuts on a staff in lithotomy. The operation described by him I will relate.

He placed on a temporary rubber ligature and cut away the tumor. "Having been careful to apply the elastic ligature, the bulk of the tumor above the ligatures was then cut away so as to leave sufficient peritoneum to cover the enormous wound. I then opened the capsule of the tumor. Applying the forceps to arrest hemorrhage, I enucleated the nodular masses from beneath the ligature, which, contracting as I removed each mass, unpuckered the outer layers (mostly composed of hypertrophied uterine fibre) like a purse string. My staff was then passed into the vagina to a position behind the cervix uteri and below the elastic ligature. Then cutting upon the groove of the staff I began ligating and cutting; as the staff had located the cervix I was enabled to extirpate it without interference with the ureters. A considerable portion of the anterior wall of the body of the uterus was left as it was, in such close contact with the bladder that its removal was deemed inadvisable. As the ovaries and tubes were much diseased, I tied them off. The ligatures, twenty-five in number, were left eight inches in length and twisted into one cord. A pair of forceps was then passed into the vagina, and ligatures grasped and drawn out of the vulva. A glass drainage tube was then inserted per vaginam into the wound, and for three days frequently washed out, to secure a perfect outflow of blood and serum. Abdominal wound closed at once."

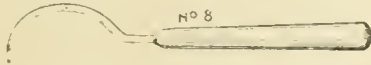
He had four recoveries.

Abstract of remarks made by invitation of the Chairman after the reading of the paper of Dr. Stone:

I must thank you for the great honor you have done me, and, as time presses, I will be brief. If I fail to make myself understood, it will be because time presses. I am one of those who care not whether an operation be that of Smith or Jones, or any one else. I do not claim the credit for this operation. Others have been independently thinking along the same line. They have come to the conclusion that a new method is called for, and that to popular-

ize hysterectomy and save suffering women we must bring the mortality down. Electricity and other useless fads have had their day. Tait's operation is, in some cases, a failure. I recorded my method, as given above, and then found that Eastman had already carried out a method very similar.

Having determined to carry out a combination of my own and Eastman's ideas, I had a staff made similar to his, and as nearly like it



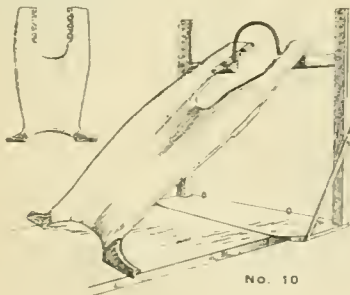
Proposed Needle.

as I could, taking my ideas from a cut of the instrument. I modified its end curve and made it as you see it, straight across the top. I provided myself with stout ligature silk, and plenty of it; and with two differently curved Hagedorn needles (owing to their large eyes), and with a very stout, well-curved needle.



Eastman's Staff, modified.

On November 3rd, 1891, I performed the operation. Having heard the benefits of Trendelenburg's position, I asked my friend, Dr. O'Reilly, the mechanical genius and medical superintendent of our Toronto General Hospital, if he could devise some aseptic, readily-applied apparatus to accomplish the purpose. I have



O'Reilly's device for Trendelenburg's position.

much pleasure in showing you drawings I have had prepared of this readily-made apparatus. It is not necessary for me to describe it—the drawings speak for themselves. We can readily modify it by making it of hardwood and with hinges for purposes of ready transportation.

We require three improvements on modern abdominal hysterectomy:

1. A position like that of Trendelenburg's, to keep the bowels up and out of the way.

2. An absence of the dirty pedicle, held up like a torch over a powder magazine.

3. A method by which oedematous tissue will not be tied and left covered up in the abdomen to bleed one, two, five, or six days after operation.

With Trendelenburg's position and the abdomino-vaginal hysterectomy about to be described, these indications are all met. I have carried out the procedure with success, and intend to follow up this success. I have done a number of the unsurgical hysterectomies of the past, but never had less anxiety or such a rapid convalescence as in this case.

The girl, though suffering from heart disease and bronchial catarrh for the first few days, had none of that typhoid appearance so common in the second week, the *sloughing week*, after the extra-abdominal pedicle method. One hears such glowing accounts of the extra-abdominal methods that one wonders if his patients are sicker than those of operator A. or B. With all the antiseptic powders, lotions, gauzes, and salves that the chemist can produce, an oedematous pedicle will slough; and a sloughing pocket will be left between the recti muscles to granulate by a slow process, and all the time it is a menace to the dirt-aborring peritoneum.

The patient had been previously operated upon; but after one ovary had been removed and it was found to be impossible to remove the other, the abdomen was closed. She came under my care, suffering very great pain from the imprisoned ovary, and was incapacitated from work. She had also an obscure heart murmur, and on this account ether was the anæsthetic used. For twenty-four hours previous to the operation the vagina was packed with iodoform gauze, after having been well douched with  $\frac{1}{1000}$  solution of bichloride of mercury. The bowels were well emptied by a purgative and an enema on the morning of the operation. The abdomen was prepared and the external genitals well scrubbed with soap and water.

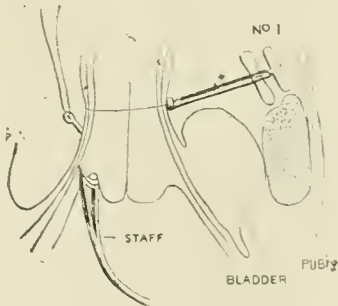
After anæsthesia the patient was placed in Trendelenburg's position; without, however, using all of the apparatus described above.

Such high elevation was not required. A good free incision was made, large enough to permit of the removal of a tumor of the size of a man's head.

I made these sketches on board the train. They are poor, but will no doubt give you some idea of the steps of the operation.

Her tumor has increased more rapidly since the former operation, and she has had spasmodic pains, like labor pains. On opening the abdomen, adhesions to the descending colon and small intestine on the left side were present. They were extremely dense, and could not be peeled off without tearing the bowel. I ligated with fine silk, and cut away in pieces the outermost layer of the capsule, thus avoiding any injury to the bowel. This separation of adhesions occupied much time. The omentum was tied off in three sections where adherent to the tumor.

During this proceeding the tumor was out of the abdomen, having been raised out by the corkscrew. The broad ligaments were tied up close to the tumor, and forceps put on the tumor side and the ligaments cut between ligatures and forceps. When cutting the third broad ligament section, on the right side, a large vein was wounded and flooded the field of operation in an instant. I hurriedly slipped on the rope clamp and soon controlled the refractory vessel. The tumor was rapidly amputated, and the hysterectomy pins passed through the pedicle in the usual way and the wire clamp of Koeberle adjusted. The rope clamp was then taken out

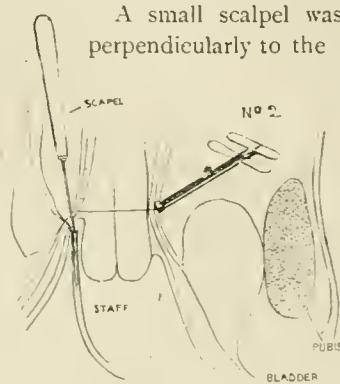


Staff in Vagina; first stitch being passed.

of the way, as it was too clumsy and bulky. The hysterectomy pins were also in the way and were removed, and the pedicle was left simply constricted by the wire clamp. It could now be readily controlled, raised from the abdomen and lowered again at will.

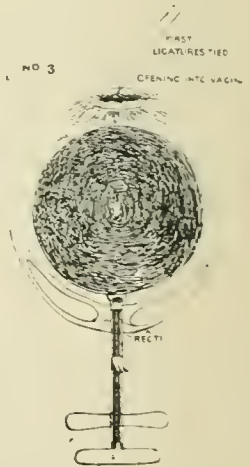
The staff was now introduced into the tho-

roughly disinfected vagina and held up well behind the cervix. The curved Hagedorn needle was now carried down on to the staff and brought up again into the abdomen so that its thread encircled the tissues of the posterior cul de sac or the pouch of Douglas, lying between vagina and abdomen. This ligature was a stout one, and was very firmly tied.



Stitch tied and scalpel inserted on the staff.

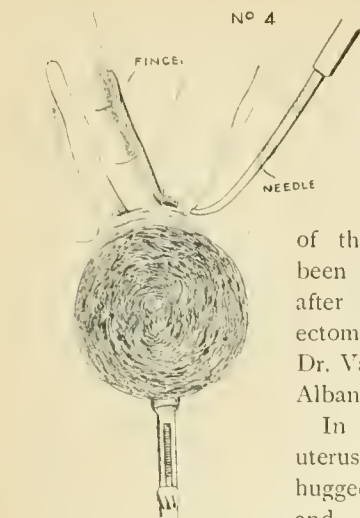
A small scalpel was now inserted perpendicularly to the staff, and a cut made equal in extent to the tissue tied, and the index finger of the left hand was immediately thrust through the opening into the vagina. A firm perineum needle, threaded with stout silk, was now entered about one-half inch away from the left angle of the wound, and, guided by the finger tip above mentioned, was made to emerge from the wound in the posterior cul de sac into the abdominal cavity, when the thread was grasped and the needle withdrawn. This was tied, and a further incision made in the *inter abdomino-vaginal* tissues. The needle was again inserted one-half inch further away from the outer angle of the abdomino-vaginal incision and passed out through the incision as before. The ligature was again tightly tied, and another incision made



Opening now left into Vagina from above.

with the small scalpel to correspond to the amount of tissue ligated. The needle was passed close below the wire of the clamp, which thus acted as a guide, and the knife was inclined downwards and inwards, so as to shave off a little of the outer vaginal surface of the portio vaginalis. This, I believe, to be of value for æsthetic



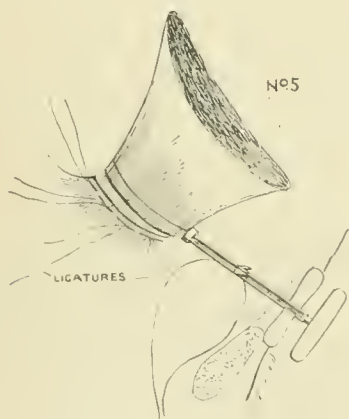


Needle being passed on finger in Vagina with second Ligature.

purposes—so as to leave an almost complete vagina for copulation.

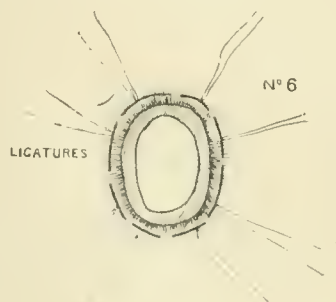
Contraction of the vagina has been complained of after vaginal hysterectomy, so my friend, Dr. Vander Veer, of Albany, tells me.

In this way, the uterus was closely hugged; the ureters and bladder were left unharmed. Two nodules were enucleated below the clamp on the right side. The cervix was thus encircled by about seven or eight ligatures; and when the last one was



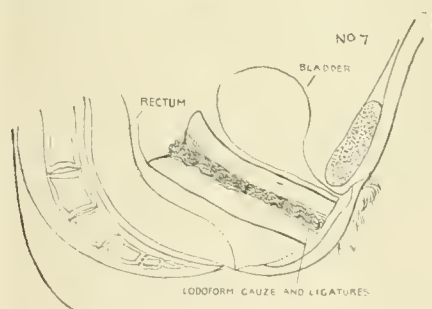
tied, the circle around the cervix at the apex of the vagina was completed. The opening into the vagina would barely admit the tip of my left index finger. The staff was of course removed after the first incision into the cul de sac of Douglas. A pair of vaginal hysterectomy forceps was now passed up from below the ligatures, were grasped at their single long ends (the other having been cut close to the knot), and with a piece of twisted rope made of iodoform gauze were drawn down into the vagina. The gauze was drawn down further

until firmly imbedded with the stitches, and the surplus was cut off on the abdominal side close to the opening into the vaginal fundus. The vagina was packed with another piece of gauze, and in it the suture ends were hurriedly wrapped. An iodoform gauze pad was applied over the external genitals. Owing to the persistence of hemorrhage from pelvic adhesions, I packed the abdomen with iodoform gauze; and after tying



Looking down after removal of Uterus.

up the abdominal sutures, I put on a compress of several folded towels over the wound dressing of Gamgee's pads, and drew the abdominal roller tightly over these.



After Ligatures have been drawn into Vagina.

#### Pulse and temperature record :

|                              |           |          |          |
|------------------------------|-----------|----------|----------|
| 9.30 a.m., before operation, | temp. 98½ | pulse 80 | resp. 20 |
| 1.30 p.m., after “           | “ 97½     | “ 80     | “ 24     |
| 4.30 “ (feels chilly)        | “ 100½    | “ 88     | “ 32     |
| 6.40 “                       | “ 102½    | “ 100    | “ 34     |
| 9.00 “ (pain in back)        | “ 101½    | “ 104    | “ 32     |

The respirations were increased owing to the bronchial inflammation due to that horrible ether. Her cough became troublesome, but I would not allow the administration of any opiate. Inhalations of tinc. benzoin co., with belladonna and chloroform, were ordered. The

temperature ran such a course as one would have with a severe bronchial catarrh,  $100\frac{2}{5}^{\circ}$  to  $101^{\circ}$  for five days—morning and evening being about the same. She expectorated large quantities of phlegm. Stitches were removed on the sixth day. The iodoform gauze was taken from the abdominal cavity in twenty-four hours, and the untied stitch was tied. The rope of gauze going from the vaginal apex was left until bowel adhesions could form over the abdomino-vaginal hole and become firm enough to prevent a hernial protrusion. This was taken out on the eighth day.

The ligatures hanging in the vagina were re-encircled with fresh iodoform gauze every five or six days until about the third week. All have come away by a little gentle traction. No vaginal douche was allowed. The abdominal wound healed by first intention without a drop of pus, and nothing came from the vagina but a little whitish discharge that looked like leucorrhœal mucus.

This girl was very anæmic and suffers from a heart lesion, and yet she has made a good recovery. Bad adhesions prolonged an operation never before carried out by the operator, and the patient thus sustained greater shock. The operation lasted about one and one-half hours. One-half of the time was consumed in ligating and controlling intestinal, omental, and pelvic adhesions. The right ovary was jammed down in the pelvis, and its removal without complete removal of the tumor would have been impossible.

I would like shortly to summarize the steps of the operation :

1. Abdominal incision.
2. Extra-abdominal delivery of tumor.
3. Tying of broad ligaments.
4. Application of rope or wire clamp.
5. Removal of tumor supra-vaginally.
6. Substitution of wire for rope clamp.
7. Passage of staff.
8. Ligation of posterior cul de sac.
9. Incision of posterior cul de sac on staff.
10. Insertion of finger in abdomino-vaginal wound from abdominal side.
11. Removal of staff.
12. Passage of ligatures.
13. Invagination of ligatures with gauze.
14. Cutting off gauze level on abdominal side.

15. Packing vagina with gauze and applying external genital pad.

16. Closure of abdomen.

My thanks are heartily given to my friend, Dr. Temple, who ably assisted me ; to Dr. O'Reilly, who supervised matters ; and to Dr. Third, who took subsequent charge of the patient. My friend, Dr. Baines, and the house staff, as well as a number of students, were present.

This operation will fill a want. Cases come under our notice in which ovaries and tubes have been removed, and yet they do badly. I received a letter, December 2, 1891, from the husband of a patient whose ovaries and tubes I removed for fibroid tumor in April, 1890.

He writes : " I am sorry to tell you, doctor, she has been very ill indeed ; she is sick every two weeks now, and it is something fearful the way she suffers. I write to ask if you can do anything for her. She is willing to go through an operation or anything to get short of her pain. I am afraid she will be dropping off in some of those attacks."

I intend to remove her uterus. It is too large to remove per vaginam, and has not grown large enough to allow of the formation of an extra-abdominal pedicle ; but I am sure that I can readily take it away by the method just described, and with much greater rapidity.

I once heard a New York surgeon say that he was sure the removal of the uterine fundus was the bugbear to be avoided—that it was the great producer of the shock of hysterectomies. I heard another surgeon say that the removal of the vaginal portion of the cervix increased the shock. What nonsense ! It is the want of rapid aseptic surgery that produces the shock.

The operation is only recommended to those thoroughly familiar with the subject of hysterectomy ; and deaths occurring in the hands of others have no right to a place among statistics of the operation.

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DR. GEORGE A. B. ADDY, of St. John, N.B., has been appointed superintendent of the St. John General Hospital, in the place of Dr. F. G. Esson, who has resigned in order to take the position of Resident Intern in the Eye and Ear Infirmary of New York.

## A CASE OF BRONCHO-PNEUMONIA IN AN INFANT TREATED BY COLD BATHS.\*

BY DR. A. F. M'KENZIE.

In broncho-pneumonia high fever is generally marked, and most authorities are agreed as to the necessity of reducing it when excessively high. Fever can be reduced with certainty, and in infants with very little trouble, by the cold bath. Popular prejudice, however, is so great that they are not so frequently employed as they should be.

In the following case cold baths were used with great apparent benefit and no perceptible injury: On Oct. 3rd I was hurriedly called to see Eva H., aged sixteen months, of German parentage. The mother did not speak very intelligible English, but from what she told me I judged that the child had had a convulsion. She was lying in a semi-unconscious condition, temperature 103.5°, respiration 50 to 60. On auscultation mucous rales could be heard. These symptoms, together with a history of a previous cough, led me to believe that the child was about to have catarrhal pneumonia, and the subsequent history confirmed my diagnosis. Although the child recovered from the unconscious condition, the other symptoms did not improve, and in a few days well-marked consolidation could be detected in the posterior part of the right lung, and subsequently in the lower part of the left lung. The chest was enveloped with hot linseed poultices, and an alkaline febrifuge mixture given, together with as much nourishing food as could be retained. As frequently happens in these cases, vomiting and diarrhoea were troublesome and demanded special treatment.

The child's condition gradually grew worse, and on the morning of the tenth day the case appeared hopeless. The respirations were sixty to the minute, and accompanied at each inspiration by recession of the soft parts of the chest. Consolidation in the right lung appeared to be limited to a patch at the angle of the scapula, the size of an orange, and at least the lower half of the left lung was solidified. Constant spasmodic twitchings of the

extremities, particularly on the left side, were present, and there seemed to be some motor paralysis on this side. The child appeared unconscious, allowing itself to be handled and examined with the peculiar indifference generally present in severe catarrhal pneumonia. A well-marked *tache cérébrale* could be developed. The head was slightly retracted, and the eyes appeared to be blind to light and the motion of objects in front of them; the pupils were equal, and responded slowly to the light; no squint; rectal temp. 105.8°. These nervous symptoms, together with the fact that consumption had occurred in the family of the father, led me to fear that I was dealing with a case of acute tuberculosis affecting the meninges of the brain as well as the lungs, and had the child died I would have concluded that such was the case. To me the only hope for the child's recovery, and that a slight one, was energetic lowering of the temperature.

The child was stripped, given a teaspoonful of brandy, which it had been taking in smaller doses, and put into a small bath-tub full of water, about 80° F. The water appeared to give the child some shock at first, but the spasmodic twitchings speedily grew less and the respirations fell from 60 to 40. When the rectal temperature had dropped a couple of degrees, the child was removed, dried, given another dose of brandy, and dressed, its chest being enveloped in cotton wadding. About five minutes after removal from the bath, the rectal temperature dropped still further; in all, four degrees. The child then fell into a natural sleep and rested very well for about three hours, when the muscular twitchings and other symptoms appeared to get as bad as before. On my return in the evening the rectal temperature was 105.5°. The bath was repeated, the water used being 80°, as tested by an ordinary household thermometer. The temperature was again reduced some 3.5°, and with the same apparently good effects. These baths were repeated morning and evening for four days—seven baths in all being given. After the thirteenth day of the illness the baths were not repeated, as the temperature did not rise over 103°. Occasionally, however, if the twitchings appeared to get worse, the parents placed a cloth, wrung out of cold water, over the lower part of the chest and abdomen. This was done at the sugges-

\*Reported at Toronto Medical Society.



tion of the father of the child and with my approval, and appeared to have a soothing effect. From the commencement of the cold baths the child gradually improved; the muscular twitchings became less severe and finally subsided; respirations less frequent, consciousness returned, and the consolidation slowly disappeared. At this date, Nov. 25th, the child is quite well.

Although other means of treatment were not neglected, such as careful attention to feeding, stimulants, and such drugs as quinine, ammon. carb., bismuth, etc., yet the immediate effects of the cold baths were so beneficial, as shown by the lowering of the temperature and the mitigation of the nervous and other symptoms, that I cannot but believe that they were the main factor in turning the balance in favor of recovery.

In the use of the cold bath, it is well to remember that the rectal temperature continues to fall for a short time after the child is removed from it. If this is not borne in mind, there is danger of reducing the temperature too much and causing collapse.

Some writers recommend that the temperature of the baths be 70° F. In the above case the baths used were 80°. A few times the baths were 90° to commence with, and gradually lowered to 80°. The duration of the baths was from ten to fifteen minutes. Stimulants were given before and after, and friction of the limbs was used while the child remained in the water.

DEER PARK SANATORIUM, TORONTO.—This institution has been opened recently as a private retreat for the subjects of inebriety or narcomania. The building for the purpose has a beautiful situation in Deer Park, North Toronto, and is surrounded by a lovely bit of park ground. The rooms are bright, cheerful, and well furnished. The number of unfortunates who are afflicted with such forms of mania are large, and can certainly be best treated in institutions of this sort. This sanatorium has been built and equipped by a number of charitable men, nearly all laymen, who are prompted more by a desire to assist this class of sufferers than any hope of great pecuniary profit.

## IRRIGATING TUBE.

The glass tube I am about to describe was made for me by Mr. J. Stevens, Toronto. It is specially designed for use in the puerperal period in any condition which requires the uterine cavity to be washed out.

The annexed cut shows the form of the instrument. Its whole length is 12½ inches. It is made of heavy glass tubing, about ⅜ of an inch in diameter.

The end for introduction into the uterus is closed and smoothly rounded. The other end diminishes in size in the last two inches, so that it can be readily attached to any ordinary enema syringe. In the curved portion there are numerous perforations. The outer surface along the curve is indented by three grooves about two inches long. These grooves are intended to permit the free return of the fluid which has been injected into the uterus.

The following points of advantage may be claimed for this simple little tube:

1. Being made of glass, any kind of fluid the case may require may be injected through it.

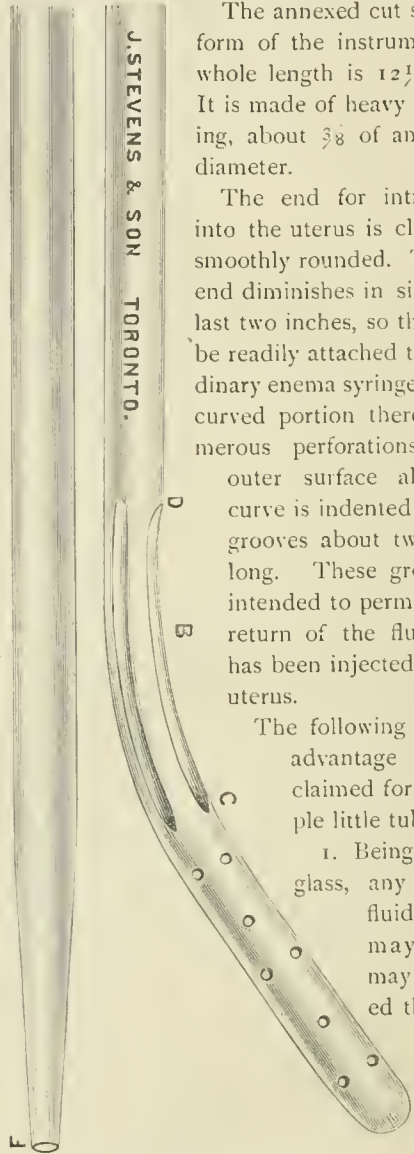
2. After use it can easily

be made perfectly aseptic.

3. Its form makes it easy to introduce.

4. Being perfectly smooth and somewhat large, it cannot inflict any injury on the uterine mucous membrane.

It has one disadvantage. It is very easily broken in carriage, but it can be replaced at a



small cost. It ought not to break during use in the hands of any physician who is competent to administer an intra-uterine douche.

ANGUS MACKINNON.

Guelph, Dec. 1st, 1891.

## Selections.

THE GYNECOLOGICAL USES OF ARISTOL, ICHTHYOL, IODIZED PHENOL, RESORCIN, CREOLIN, AND CHLORIDE OF ZINC.—C. D. Palmer (*Cincinnati Lancet-Clinic*, October 3, 1891) has found *aristol* superior to iodol and iodoform. It is unirritating, non-absorbable, and has no toxic effect. It possesses stimulating, alterative, and anæsthetic properties. He uses it in pure form as a powder, applied by insufflation. In narrow passages it may be used by suppositories. It becomes an admirable dry dressing for some cases of chronic vaginitis, vulvar pruritus, cervical endometritis, cervical erosions and fissures, mammary fissures, and syphilis, primary and secondary. *Aristol* gauze can be made by impregnating plain gauze with an ethereal solution of *aristol*, containing from one to two grammes of *aristol* per yard. Crayons for the urethra or uterus can be prepared by using at least one gramme mixed with a sufficient quantity of gelatine or gum acacia. *Ichthyol* appears to favor the healing processes, mitigating pain and favoring the absorption of inflammatory exudates. Palmer has utilized *ichthyol* in three ways—giving it internally, applying it externally and topically to diseased structures. His experience has so far been rather favorable, but not sufficient to justify an enthusiastic expression. At present there is no topical medicament within the whole range of medical preparations, excepting Churchill's tincture, which he finds himself employing more frequently for chronic morbid conditions of the endometrium, with or without special functional disorders, than *iodized phenol*. He employs it by ingestion and injection, without or following curetting. The drug is antiseptic, alterative, astringent, mildly caustic, and hemostatic. *Resorcin* has proved to be an admirable remedy, combined with boracic acid and white vaseline, or incorporated with the ointment of the oxide of zinc as a salve, to be applied to certain skin

diseases of the external generative organs, and to foul-smelling, indolent ulcerations in the puerperal as well as gynecological conditions. *Creolin* is an efficient germicide, and in some respects more powerful than carbolic acid, more destructive to the micro-organisms of various diseases, and of suppuration. It is less toxic than carbolic acid, but it is not entirely devoid of toxicity. *Chloride of zinc* is valuable for vaginal and endometrial morbid conditions. All malignant diseases of the uterus, for any cause, rendering partial or complete hysterectomy unjustifiable, are signally improved in general health, given a prolonged life, and materially bettered in all local symptoms by a thorough application of the *zinc chloride*, after sharp curetting. He has employed intra-uterine tampons, saturated with a solution (from 25 to 50 per cent. strong), or crayons, equally strong, a protection of the vaginal mucous membrane being maintained at the same time.—*University Medical Magazine*.

THREE CASES OF RUPTURE OF THE UTERUS, ONE OF WHICH WAS SUCCESSFULLY TREATED BY LAPAROTOMY.—Underhill (*Edin. Med. Jour.*) reports three cases of rupture of the uterus, in two of which the child was delivered through the rent, death following in both cases. In the third case laparotomy was done and the patient recovered. The following is a short abstract of the third of these cases: G. P.—, æt. 28, was admitted into the Maternity for her third confinement. The cord was found to be prolapsed, and a hand was felt lying by the side of the head. Both the cord and hand were pushed up, but the former came down again about an hour later, and was found to be no longer pulsating. Stronger pains came on about six hours later, and during one of these she said she felt something give way inside her. When seen by Underhill, no presenting part could be felt. No pain was complained of, and she was not markedly collapsed. On introducing the hand into the vagina, a large tear in the body and cervix of the uterus was made out. The body of the uterus was firmly contracted and lying in the right iliac fossa, and the foetus and placenta were among the intestines. An incision was made in the middle line of the abdomen, reaching from the umbilicus to one inch above the

pubes. The placenta was removed first, and then the fetus was seized by the feet and taken out. A quantity of blood was found in the peritoneal cavity. The uterus was drawn out and removed according to the method recommended by Lawson Tait. As the India rubber tube could not be fixed low enough to include the whole of the tear, the edges of the lower part were brought together by four catgut sutures. The peritoneal cavity was carefully cleaned by douching with hot water and thorough sponging. The abdominal wound was sewed up with silk sutures, and the stump dressed with sulphate of iron. The patient made a good recovery. The stump came away on the ninth day, leaving a deep hole, which subsequently filled up.—*Med. Chronicle*.

#### BLOOD-LETTING IN URÆMIC CONVULSIONS.—

Dr. Samuel Wilks, veteran physician at Guy's Hospital, is reminiscent, in a recent *Lancet*, of the good old days of blood-letting. He remembers seeing too many interesting persons snatched by this agency from the brink of the grave to be unmindful of its claims, and he attempts to find excuses for the present day and generation in its neglect of phlebotomy. Of his success with the lancet he writes the following: "A young woman was brought into the hospital in a dying state, gasping for breath, and livid; there was a mitral bruit, engorgement of the lung with hæmoptysis, albuminous scanty urine, and dropsy. We bled her from the arm and the effect was immediate, the breathing became tranquil, lividity passed from the face, and improvement continued from that time. In cases of *uræmic convulsions* the effects of bleeding are very striking; the right heart is relieved, and poisoned blood is removed from the system. One case of this kind, indelibly fixed in my memory, is that of a dressmaker, who, I believe, is still alive. I was asked a few years ago to see this patient, who had been in convulsions all night. I found a middle-aged woman in constant convulsive movements, froth issuing from her mouth, quite comatose, and almost pulseless. The whole body was livid and the extremities cold. The doctor said she was dying, and allowed me therefore to bleed her. I took away a small wash hand basin of blood, and, while yet flowing, the lividity passed

off, the convulsions ceased, the body gradually became warmer. Her life was as clearly saved by the bleeding as if I had dragged her *drowning out of the water*, and this is more than I can say of drugs." With this are other instances of the same tenor.—*Four. Amer. Med. Association*.

THE

## Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited: We shall be glad to receive from our friends everywhere current medical news of general interest.*

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TORONTO, DECEMBER 16, 1891.

### TORONTO GENERAL HOSPITAL TRAINING SCHOOL FOR NURSES.

This admirable training school has now been in existence two years, and we are glad to know its valuable work has been and is now very highly appreciated. In the first year there were sixteen, and during the last year there were sixty-two nurses receiving instruction. At the recent examination the nurses are said to have acquitted themselves admirably, and the distribution of the medals and certificates to the successful candidates took place in the theatre of the hospital under favorable auspices, November 7th, when a large number were present, including citizens, hospital authorities, and members of staff.

Miss Snively, the capable lady superintendent, in her report thus spoke of the aims and objects of the school:

"The training-school system has a threefold object in view. Its primary and greatest aim is the improvement of the nursing service in the hospital, so that the poor of our community, who would otherwise find it beyond their means, may have every advantage which skilled nursing can provide. Secondly, it aims to be a school of instruction where women who are fitted by nature and education can obtain a thorough theoretical and practical knowledge of the art of nursing, with a view to making this their calling or profession; and thirdly, it seems to give the medical profession intelligent and skilful co-operation in the noble work of alleviating human suffering."



In speaking of the requirements and methods of training and teaching, she said :

" At present nurses are required to pass an entrance examination, consisting of ordinary English and practical work, a written examination at the end of the first year set by the superintendent of the school, and at the end of the second year a written and an oral before an examining board."

Several addresses were delivered by gentlemen present, including the Chairman of the Hospital Trust, Drs. Temple, Sheard, and O'Reilly. Dr. O'Reilly, after speaking on general terms respecting the duties of trained nurses, referred to the National Pension Fund for Nurses in the following words :

" Since we had the pleasure of hearing Mr. Burdett in this theatre a few weeks ago regarding the benefits given to those who join the National Pension Fund for Nurses, I have received from London a number of pamphlets explaining very fully the scheme of insurance offered, and giving in a few pages the advantages to be gained by providing for the future when old age or sickness may render you unfit for active duty. I shall be pleased to hand one of these little books to any nurses wishing to look into and examine this means of providing for old age. As some of you know, after years of hard work in laying the lines for this great Pension Fund for Nurses, Mr. Burdett, the founder, and his friends began to feel that they were standing on sure ground, that they were then justified, not only in explaining their well-matured scheme to the nurses of England, but also in asking for countenance and help in the highest quarters. So they took steps to place the facts before their Royal Highnesses the Prince and Princess of Wales, and the result was that the Prince became patron, and the Princess accepted the office of president. The acceptance of these offices by their Royal Highnesses was a definite assurance to the world that the National Pension Fund for Nurses is now an accomplished fact, and a firmly established and sound institution, as we all know that the Prince and Princess of Wales do not lend or give their names and influence to any experimental projects. The interest taken by royalty at the first still continues, as I see by a late English paper that the Princess of Wales' birthday, Dec. 1st, is to be marked this year by the presentation at Sandringham of a screen for her Norfolk Home containing the photographs of the first thousand nurses connected with the National Fund, and I hope very soon that we shall have the pleasure of knowing that a group of our Canadian-born and Canadian-trained nurses may receive a similar honor."

DR. WYLIE, M.P.P., formerly of Stayner, has removed to Toronto.

## COUNCIL EXAMINATIONS.

The examinations of the Ontario Medical Council have not always been eminently satisfactory from a student's point of view. The latest grievance is the change of date, as decided at the last meeting of the Council, from April to September. In 1892 the examinations will be held at the usual time, the second Tuesday in April; but in 1893 it is announced that they will commence on the second Tuesday of September. It is contended that this regulation is to a certain extent retroactive, because it affects students who registered in the Council before such a rule appeared in the curriculum. It certainly seems rather hard for those who are in the third year. During their first and second years they were led to believe that a spring examination was a fixture, and that the only doubt that existed had reference to a fall supplemental. They now learn that there is only to be one examination in the year, and such examination will be held in September. It is thought by many that the time is unsuitable, because it comes on after the hot months of July and August, which form the most unsuitable portion of the year for close application to studies.

While there may be much or little in such arguments, we think there can be little doubt that the system in vogue for many years has been very unsatisfactory in certain respects. The sessions, already too short, have been much abbreviated by crowding too many examinations on the students before they had properly digested their work. For many years the examinations of the Council commenced on the first Tuesday in April, and the various school and university examinations were generally finished before that date, some of them commencing as early as the middle of March. Under the circumstances even the second Tuesday of April is too early, and we hope such a date will never be named again. We think, however, it would be well to have all the examinations completed before the "dog days."

## RELATION OF SEROUS PLEURITIC EFFUSIONS TO TUBERCULOSIS.

The latest contribution to the literature of this important subject is that of Dr. Garland, of Boston, whose experience has probably been

exceptional. He says that fifty per cent. of the cases of sero-fibrinous pleurisy seen by him, in private practice and in consultation, during the past fifteen years, are to-day dead or dying of tuberculosis. Eighty per cent. of these cases of subsequent tuberculosis required tapping before the effusion disappeared. None were old and neglected pleurisy, and all were tapped and relieved of the effusion within a reasonable time. Some of them enjoyed apparently good health after the pleurisy, and before the fatal tubercular development.

Barrs records that of seventy-four hospital cases of pleurisy with effusion, under treatment from 1880-1884, thirty-two died. In twenty-eight of these the average duration of life was two and a half years, the maximum being five years, the minimum six months. Of these thirty-two, there died of phthisis or other tubercular manifestation twenty-one.

Opposed to such experience is that of Bowditch and of Coriveaud. The latter has followed up twenty-seven cases of sero-fibrinous pleurisy for periods of twenty-five, twenty, sixteen, eleven, ten, and eight years, and none of them became tubercular.

Examination of the pleuritic fluid does not definitely decide the question; for while in some cases the germs are absent, in others they are present. In these, the pleurisy may be the first manifestation of tuberculosis to attract attention.

In the face of the many cases of serous pleurisy which never present any signs of tuberculosis, and of the cases of tubercle which have never caused serous effusion, it is difficult to believe in such a close relation between the two diseases.

It may be well, however, in forming an ultimate prognosis for any case of pleurisy, to closely examine the lung for evidences of tubercle.

#### THE STUDENTS' DINNERS.

The medical students' dinner has become very popular in Canada. It appears to have become a regular annual event, and generally creates great enthusiasm among the students. The members of the various faculties are somewhat divided in their opinions on the subject, and are far from indulging in the enthusiasm which is so evident among the undergraduates.

The principal objection is the considerable waste of time which is involved, which happens to be far more than one would consider necessary. For instance, a whole hour is sometimes occupied in selecting and electing a representative for a dinner to one of the sister colleges. The hours that are taken up by the students for the whole work of organizing and preparing for the banquets are too many when we consider the amount of work that has to be crowded into sessions that are already too short. However, no one objects very strongly or openly, and all appear to enjoy them. Indeed, he would be a queer sort of an ascetic who could remain cold and unsympathetic at the recent dinners held in Toronto by the two schools. They were exceedingly successful in all respects, and the students acquitted themselves admirably. We are glad they are appreciating the fact that, in assuming the responsible position of hosts, they owe duties to their guests which have not always been kept in view in the past. The cat-calls and unseemly howls of the past are becoming infrequent, and students seem now to appreciate that they can have "a jolly good time" without imitating the practices and customs of wild Indians.

#### THE DANGERS OF ATROPINE.

The *Medical Press* states that a "lady" was arrested as drunk and incapable, when in reality she was suffering from the toxic effects of some atropine drops rashly introduced into the eyes for cosmetic purposes. The boundless possibilities of these atropine drops we would commend to the serious consideration of gentlemen from Scott Act counties. "Nervous prostration" is a dead issue.

DR. P. H. BRYCE, secretary of the Provincial Board of Health, delivered a lecture on "The Student in Relation to Physical Exercise," before the Knox College Literary and Theological Society, Tuesday evening, December 2nd.

DR. W. E. B. DAVIS, of Birmingham, Alabama, was elected president of the Tri-States Medical Association at the recent meeting, Chattanooga, Tennessee.

## Meeting of Medical Societies.

### PATHOLOGICAL SOCIETY OF TORONTO.

October 31st, 1891.

The society met in the Biological Department, the President, Dr. J. E. Graham, in the chair.

Dr. John Caven presented the following specimens :

#### (1) EPITHELIOMA AT CARDIAC ORIFICE OF STOMACH, WITH SECONDARY GROWTHS IN THE LIVER.

The specimen presented a clearly excavated ulcer about  $1\frac{3}{4}$  inches across and circular in shape, close to the œsophageal opening into the stomach. The border of the ulcer was much thickened and indurated with a very sharp outline. A slight puckering of the coats of the stomach is noticeable from the outside. The ulcer is situated in the lesser curvature of the stomach, and so close to the œsophagus as to raise the question of place of origin. The cardiac orifice was not in the least contracted, and apparently the lower border of the œsophageal mucous coat can be distinctly differentiated from that of the stomach and is not implicated in the ulcer. Microscopic specimens tend to confirm the idea of the stomach origin of the growth. Secondaries in great numbers were present in the liver; these showed an attempt at gland formation with columnar epithelium. Clinically, this case was peculiar in that no symptoms pointing to the stomach or liver had ever been observed, a hemorrhage from the bowel being referred to the lower part of the intestine.

Dr. Peters thought the evidence was not clear that it did not originate in the œsophagus, as its edge apparently reached the lower end of the œsophagus, and it may have spread from that point along the lesser curvature.

#### (2) CANCER OF STOMACH.

This specimen showed a large sac or pouch rising from the upper posterior part of the stomach, closer to the pylorus than cardia, and with its base firmly adherent to the under side of the liver. The opening from the stomach into the pouch is about three inches across, and

presents a very sharp, definite edge. The floor of the sac presented a number of wart-like protuberances. An opening from the pouch into the duodenum was found, circular in shape, and about one inch across. The serous coats of the sac and duodenum were glued together over a considerable area. Microscopic examination of the tissue forming the floor of the sac showed the structure of cancer. Exhibitor was of the opinion that the primary lesion in this case was a chronic form of cancer of the stomach with gradual pouching of the wall, adhesion to liver and duodenum, with ulceration into duodenum.

Dr. Graham asked if the absence of free hydrochloric acid was fully diagnostic of gastric cancer. He has several cases under observation of supposed gastric cancer in which there is no free hydrochloric acid in the contents of the stomach.

Dr. A. B. Macallum thought that where the cancer is diffuse the secretion of hydrochloric acid must be interfered with; but when it is circumscribed, free hydrochloric acid should be secreted.

#### BILIARY CALCULI.

Dr. J. E. Graham presented specimens of gall stones and read the following history :

Mrs. R., æt. 76. Has been very healthy during her life. Has frequently complained of what she called bilious attacks. Has always been fleshy; weighed when in health about 200 pounds. She had on the upper lids of both eyes three or four patches of flattened xanthelasma. In the summer of 1890 she was afflicted by an eczematous eruption, which disappeared in the autumn, after three months' treatment. The eczema reappeared in the early part of the winter, and became almost universal. The eruption was of an erythematous character, with slight scaling. The irritability of the skin was very great, so much so at times as to prevent her from sleeping. The urine was normal in quality, sp. gr. 1027: contained sugar in small quantities. Patient suffered most of the time from fever. The temperature would rise over 100° each evening. For days at a time, however, the temperature was normal. In the spring the eruption gradually disappeared, so that in May she was almost free from it. She did not, however, recover her strength, but,



without apparent cause, continued to lose flesh and became weaker. She took a fair amount of liquid nourishment, but could not swallow solid food owing to a swelling and soreness of the mucous membrane of the pharynx.

While in this weak condition, unable to leave her bed, during the afternoon of one day in June, hemorrhage from the bowels began. This continued in spite of all remedies to check it, and patient died during the night. Upon *post mortem* examination we found the whole of the mucous membrane of the large bowels stained with blood. The vessels were also intensely congested over the same surface. We did not find any open vessel; nor did we find any obstruction to the venous circulation. The liver was very fatty, and the gall bladder was completely filled with gall stones. Patient had never suffered from jaundice during life, but was for many years a martyr to what she called bilious headache. It is probable that an obstruction existed in the venous system supplying the large intestines which produced the excessive distension of the veins, and that a vein had given way, resulting in the hemorrhage. Sufficient opportunity was not given to verify these suppositions in this *post mortem*. There are three or four interesting points in connection with this case:

(1) The presence of such an obstinate eczema, which may have resulted from the retention in the blood of products of assimilation which should have been elaborated in the liver. The peculiar greasy skin mentioned by some authors as occurring in fatty liver was not present in this case.

(2) The presence of glycosuria, which might also be ascribed to defective liver function, but not necessarily the result of fatty degeneration.

(3) The presence of xanthelasma, which Hutchinson says occur so frequently in patients who suffer from sick headache.

(4) The patient was fond of such articles of diet as potatoes, sweet cake, preserves, etc., and ate large quantities of bread. Such a diet would tend to produce fatty liver, and the condition was no doubt increased during the last year of her life when she was unable to take any exercise.

Dr. Peters presented the following specimens:

#### (1) BIMUCOUS FISTULA BETWEEN STOMACH AND DUODENUM.

This operation was performed on a dog on Sept. 10th. The animal died on the eighth day from obstruction of the gall duct and consequent cholæmia. In the operation the pylorus was removed, together with an inch and a half of the duodenum; and as the bile duct enters the duodenum about an inch and a half from the pylorus, it was doubtless either divided or included in the ligature by which the vessels were secured. The union between the stomach and duodenum is perfect, air injected into one passing freely into the other, but no escape taking place. The gall bladder and bile ducts were fully distended, but, so far as could be judged, no rupture had occurred.

#### (2) BIMUCOUS FISTULA BETWEEN TWO COILS OF ILEUM.

The operation for intestinal anastomosis was performed on a dog on Aug. 22nd, and the animal was destroyed on Sept. 17th. Dawbarn's potato-plates were used. A row of superficial stitches was placed between the coils near the mesentery, the peritoneal surfaces having been first scraped to induce adhesions. Longitudinal slits was then made in the side of the gut near the row of sutures and the potato-plates inserted; another row of sutures was then applied. Recovery was uninterrupted.

*Post mortem* examination showed the anastomosis perfect, with no dilatation of the gut above. There were adhesions to the omentum and to adjacent coils, but no constriction or obstruction. The length of the opening was one and one-half times the diameter of the gut. Although the result was satisfactory, potato-plates are not to be recommended.

Dr. Peters has in a number of other cases used turnip and carrot-plates and finds them very satisfactory, but likes decalcified bone-plates best of all.

#### (3) CANCER OF RECTUM.

Patient æt. 73. History of trouble for fifteen years: was diagnosed stricture, and dilatation used. Had long history of diarrhoea and dysentery. No doubt there was ulceration of large bowel. Had been hemorrhages and passages of mucus, with some pain, and frequency of defæcation for about three months.

On examination there was found to be a hard mass in left anterior quadrant of anus. The surface was slightly ulcerated. The remainder of the annulus seemed smooth and soft, except that there was a thickened band leading towards coccyx. Operation, same as Whitehead's for piles. Recovery complete in a week.

The society then adjourned.

TRANSACTIONS OF THE FOURTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Held in New York City, September 17th, 18th, and 19th, 1891, at the Academy of Medicine.*

*(Abstract; continued from page 557.)*

Dr. W. H. Wathen, of Louisville, read a paper on

ASEPSIS IN INTRAPERITONEAL SURGERY.

If the proper precautions as regards cleanliness in every detail before and during an operation are observed, we need no antiseptic germicides in intraperitoneal surgery. If solutions of sublimate, carbolic acid, etc., are brought in contact with healthy peritoneum, their action is harmful. I will not condemn the use of chemical solutions for the purpose of sterilizing the operator, assistants, nurses, or patients, or the room, instruments, sutures, dressings, sponges, etc., if used before the operation is begun; but the chemical germicide should be removed from everything that is brought in contact with the peritoneum. Unless everything is made practically clean independent of the germicide, that will not make it aseptic. It is too often true that operators who are loudest in advocacy of germicide solutions are the least cleanly, and I have known a few of them to forget to wash their hands before beginning an operation or before examining a woman in labor.

There are relatively few men who know how to be surgically clean in every detail connected with intraperitoneal surgery, and if the time and labor that have been devoted to teaching the medical profession how to use antiseptic germicides had been directed to teaching the value of, and means of accomplishing, surgical cleanliness, septic peritonitis following laparotomy would be comparatively infrequent. Of course the above does not apply to all men who use chemical antiseptics, for some of them are the most cleanly men I have seen operate, but I believe they would get as good or better results if they omitted the antiseptics. The peritoneum is usually infected by contact, and the danger of atmospheric infection is practically nil, as has been shown by the excellent results in laparotomies done in large and crowded amphitheatres.

He explained in detail the latest and most improved methods of asepsis. He advocated drainage with a small glass tube open at both ends, with fine holes on sides extending within two inches of the mouth. He opposed the practice of

introducing the wick or gauze in the tube, and preferred to remove the blood and secretions by suction with a long nozzle syringe or a syringe with a gum tube attached.

Dr. Henry O. Marcy, of Boston, read an essay entitled

FEMORAL AND VENTRAL HERNIA IN WOMAN.

The methods by which the author obtains a radical cure are original, and are followed by most exceptional results. He advocates the dissection of the sac to its very base, which is sutured across and removed. The internal ring is carefully closed by a line of deep, double, continuous tendon sutures. The canal is narrowed and closed in a similar manner, and the wound is sealed with iodoform-collodion, without drainage. The operation is conducted with the strictest antiseptic care; and since Dr. Marcy was the first to use and publish the advantages to be derived from buried animal sutures, and systematically to extend their applicability in the general field of surgery, we quote his emphatic directions: "There is but one rule, and it cannot be too rigidly enforced—the aseptic suture must be *aseptically* applied in aseptic structures, and the wound must be maintained aseptic." The failure of either of the above-mentioned factors not alone endangers the result, but may be followed by the most serious consequences. Modern surgery demands of the operator every safeguard to insure an aseptic wound, but he who uses buried animal sutures must take, if possible, even greater precautions, since infection carried into a wound thus firmly closed is, for obvious reasons, attended with much greater danger than in a wound united by interrupted sutures which, at the end of a few days, are to be removed, and where drainage is relied upon to permit the escape of infective or foreign material. It is in part on account of defective technique, the use of drainage, and the too often septic wound, that failure to effect a cure after hernial operations so generally occurs.

"I began to use the buried animal suture in operating for the cure of hernia in 1871, and since that time have for the most part used it in the closure of all operative wounds; and in all my operations for the cure of femoral hernia, where the integrity of the intestine has not been involved, I have never observed a subsequent symptom indicating danger, and, so far as I have been able to learn, there has not been a single recurrence. There is little pain, and even œdema of the tissues does not ensue. After a few days in bed the patient is allowed to sit up. In some instances I have permitted the use of the chair the second day, without any apparent harm. I never advise the subsequent application of a truss.

"If it can be demonstrated that femoral hernia is curable, then the advisability of the operation should be taken into consideration; and if it can be proved that the cure remains permanent, it adds much to the argument in favor of operative measures; but where it is demonstrated that, under proper precautions, based upon an accurate anatomical knowledge of the structures involved, the operation is not severe, does not cause long detention from active duties, does away with the punishment inflicted by the life-long wearing of a truss, and is almost without danger, there remains

no reason why all the sufferers from femoral hernia should not profit by surgical measures and demand to be restored to the ranks of active service."

Dr. Marcy makes an equally strong plea in behalf of surgical intervention for the cure of sufferers from umbilical and ventral hernia. In umbilical hernia he dissects the peritoneal sac quite within the margin of the ring, sutures it across at its base, and resects it. The subsequent steps of the operation are conducted under irrigation. There are conditions when it is wise to resect the ring and close as in an ordinary laparotomy; but the method which Dr. Marcy more generally recommends is one quite peculiar to himself. The structures composing the ring are divided laterally upon the plane of the abdominal wall, about one-half of an inch in all directions. This admits the coaptation of the sundered parts, and, by lines of strong continuous tendon sutures, the separated edges are coapted in a way greatly to broaden the united parts. This widens the line of union to an inch or more, instead of bringing together the narrow edges of the tendinous ring; and, besides affording this great depth to the united portions, it brings together refreshed surfaces in a high state of vitalization, likely to be followed by a firm union. It also admits the joining of the tissues in three distinct layers of strong sutures. As in the other forms of hernia, the skin itself is closed by a line of running or lacing sutures, taken from side to side through the deeper portions of the skin only, which admits of its coaptation by sutures entirely hidden from view. Such a wound requires no drainage and it is permanently sealed with collodion. The weight of years of experience in active surgical practice enforces the value of Dr. Marcy's contributions upon a subject of the highest surgical importance, since the radical cure of hernia is considered by many as yet *sub judice*.

Dr. J. H. Carstens, of Detroit, said everything stated in the paper gave him pleasure except the employment of ether. He hoped some time the hub would learn from the tire out west that chloroform was the best anesthetic. In operating he made the usual incision, and returned the gut if all was right. He then took silk, with the needle which he used for operating on the lacerated cervix, and encircled the hernia opening completely. He tied that so as to close it up perfectly. He did not like to trust the buried animal suture. He dissected out the sac in the usual manner and cut it off short, then took catgut and with that sewed the wound carefully in the usual manner until the wound was entirely closed up except the skin, which he closed with two or three silkworm-gut sutures. He used no drainage tube. He wished to strongly emphasize what Dr. Marcy had emphasized, that the time for the drainage tube in the operation for hernia ought to cease.

Dr. H. O. Marcy then exhibited to the association some specimens of kangaroo tendon and explained the method of preparing the various animal sutures.

Dr. W. J. Asdale, of Pittsburg, said, with reference to the drainage tube, that he used it when in doubt what to do. He regarded the tube with many small perforations as a dangerous one. He followed the practice, where he used the drainage

tube, of turning it at short intervals, every few hours—at any rate, at every visit.

Dr. R. P. Hall, of Cincinnati, said that he had practised drainage in every case of abdominal section since October, 1887. He had never had occasion to regret placing the drainage tube. Some cases in which he placed the tube, feeling at the time that it was not necessary, would undoubtedly have died had the tube not been placed.

Dr. E. E. Montgomery, of Philadelphia, had for a long time been averse to introducing silk either into the wound or covering it up in the abdominal cavity. In reoperation upon a case a year or more after the first operation, he found the silk still remained, and in some cases it was a source of irritation. He was strongly inclined to the use of the animal ligature. He had not had the opportunity of using kangaroo tendon, but had resorted to carefully prepared catgut. He considered the care of the instruments as a very important part of the technique of abdominal surgery, particularly the needles. He advocated cleansing the needle with a soapy towel, then cleaning it with benzine, and finally placing it in absolute alcohol. When the catgut and needles were ready for use they were placed in a tray and covered with alcohol. If the catgut is placed in water it softens and swells, and is somewhat difficult to tie; but from alcohol it is hard, and when it is introduced it swells and fills up the track made by the needle. Dr. Wathen made a good point in regard to drainage. It is usually considered that drainage should be from the lowest portion of the abdomen; but if we look at the abdomen when it has been cleansed and the intestines have settled down, we will find that the liquid gravitates to the upper surface. He had no doubt but that many cases of intestinal adhesion were due to the fact that there was present a fluid which to a slight degree became infected, sufficient to give rise to a slight superficial peritonitis and gluing together of the surface. In these cases drainage by gauze or by wick is oftentimes very efficient.

### THIRD DAY—MORNING SESSION.

#### *Discussion of papers by Dr. Wathen and Dr. Marcy resumed.*

Dr. W. W. Potter, of Buffalo, said he had kept watch of Dr. Marcy's work in this direction, and had been somewhat familiar with his writings on the subject. His little treatise, published two years ago, upon the subject of hernia was a revelation to many with reference to the modern technique in the operation for hernia. Dr. Potter reported a case of ventral hernia upon which he had operated fourteen years ago with success.

Dr. R. B. Hall, of Cincinnati, said he hoped that Dr. Marcy, in closing, would give in detail the method of closing the abdominal wound after operating for hernia—whether he advises and uses the kangaroo tendon in closing the peritoneum. He had operated a number of times, using catgut, and was disappointed in its results.

Dr. J. H. Carstens, of Detroit, illustrated on the board the old-fashioned method of including all the tissues in one sweep, resulting frequently in hernia because too much of the peritoneum was included in the tissues taken up. He said that if



you will take catgut or kangaroo tendon, or whatever you like, and sew, layer by layer, up to the skin, you will get perfect union; you get peritoneum together, you get fascia together, and you get no umbilical hernia. If you follow in the track of Lawson Tait, you will be astonished at the number of cases of umbilical hernia you will find; and if Mr. Tait would advance to the American plan and accept a little from us, and make use of the buried animal suture, he would very seldom have a case of hernia following an operation.

Dr. R. T. Morris, of New York, wished to lay emphasis upon the danger of peritoneal hernia where the operation was performed with one suture, not bringing the different layers together successively.

Dr. Jas. F. W. Ross, of Toronto, said he regretted that we were not able at the present moment to decide the question between the method of taking peritoneum, skin, and fascia together, and the other method of suturing each separately. He had always adopted the single suture, taking up all the tissues, and up to the present time had only two cases of hernia. He wished to ask Dr. Marcy whether it had been experimentally proved that fibrous tissue unites to fibrous tissue, and can be traced absolutely as fibre in the scar; whether muscle unites to muscle, and can be traced as muscular tissue in the scar. On the surface, where we can see, we find it is not true skin in the scar.

Dr. H. O. Marcy, closing the discussion, said he wished to speak more particularly in reference to the subject presented by Dr. Wathen. Dr. Wathen's excellent results showed him to be a very careful operator, but there were some points in which he did not agree with his method of operating. It is some twenty years since, as a pupil of Mr. Lister, Dr. Marcy first began the study of wound treatment. During this time he had carried on many careful bacteriological experiments in his own laboratory. He thought it would not be quite right to accept Dr. Wathen's conclusion that it is no longer antiseptic surgery, but aseptic surgery, although the aseptic wound is our highest ideal and is that to which we strive to bring the result.

We place far too much emphasis on what we call the atmospheric condition, and far too little on a dirty finger nail. He was not prepared to feel that we could afford to dispense with irrigation. Another point was, not to fill the wound with a dozen or twenty compression forceps, and then expect union by first intention.

In his last hundred laparotomies he had turned on an aseptic gas—oxygen gas—the moment he entered the abdominal cavity. It is a non-irritating gas, and displaces the column of infected air that would otherwise gain access to the wound.

Septic wounds are to be treated in one way, aseptic wounds in another; the latter should never have a drainage tube applied. He uses a far less number of drainage tubes than formerly, and insists upon it that the drainage tubes shall be smaller, shorter, and less in number.

In reference to sutures, silk is encysted; it is not absorbed. He had removed it after it had been in place three years. Silkworm gut is equivalent to wire. At the best the tissues encapsulate

it; they do not utilize it by absorption or a replacement of other tissues. For many years he was satisfied with catgut, he prepared his own; but he was brought to feel that catgut was not reliable—may not be reliable. The best tendons which he had been able to find were those taken from the tail of the Australian kangaroo, after experimenting with tendons from the deer, moose, squirrel, caribou, buffalo, and other animals.

He illustrated on the board the anatomical conditions pertaining to umbilical hernia.

Dr. X. O. Werder, of Pittsburg, Pa., reported cases illustrating

#### SOME MOOT POINTS IN ECTOPIC GESTATION.

On the 23rd of May last he operated on a patient, thirty-eight years of age, mother of five children, in whom the menses had been regular up to six weeks previous to operation, during which time there had been a constant flow of blood. A mass in Douglas' cul-de-sac had been made out, pushing the uterus to left of median line, soft, semi-fluctuating, of the size of a large orange. After intestines and omentum which were adherent to this mass had been separated, a blood tumor was found, and, several handfuls of blood coagula having been emptied out of the abdominal cavity, the ruptured, dilated right tube, containing a placenta, was brought up into the abdominal incision and ligated. The abdominal cavity had been perfectly free from blood previous to breaking into this mass, and there were no signs of any inflammatory trouble. There is no doubt that this tumor was a pelvic hematocele, caused by tubal pregnancy rupturing into the abdominal cavity. Rupture had undoubtedly occurred, as the history shows, about six weeks previous to operation.

This case illustrates, contrary to the teachings of Tait and others, that not all cases of intraperitoneal ruptures of tubal pregnancy prove fatal.

Two other cases seen by the author, of undoubted ruptured tubal pregnancy into the abdominal cavity, in which operation, urged as the only hope of recovery, was refused, also recovered, though convalescence was slow and tedious; in fact, the patients, though some months have elapsed since occurrence of this intraperitoneal hemorrhage, are still more or less invalids.

In two other cases laparotomy was not performed until five days after rupture had taken place, when the patients were recovering from their condition of collapse and apparently improving. Out of a total of six cases of tubal pregnancy, therefore, in five, recovery would have been probable without operation.

The author therefore concludes:

- (1) Intraperitoneal rupture is not always fatal; a large percentage recover without operation.
- (2) The convalescence of those recovering without operation, in his experience, is very slow and tedious, and often, perhaps, impossible without subsequent operation.
- (3) Laparotomy is to be recommended not only in cases before rupture, and after rupture for the purpose of stopping hemorrhage which threatens life, but also after bleeding has ceased, and even if hematocele has formed, because by it we remove all present and future danger, and insure our patient a very rapid and uninterrupted convalescence. Laparotomy has proven to be, if performed

by skilful hands and all necessary precautions, a perfectly safe operation.

The remaining tube should not be removed—*i.e.*, the tube not the seat of fetation—as has been recommended by some to prevent a recurrence of pregnancy in that tube, unless it is markedly diseased. Removal of it became necessary only once in the four cases operated on for ectopic gestation by him. Two cases subsequently became pregnant, one has been delivered of two living children, and another is now in her seventh month of pregnancy.

Dr. Florian Krug, of New York, gave a short historical sketch of the employment of

#### TRENDELENBURG'S POSTURE IN GYNECOLOGY.

Dr. Krug witnessed a suprapubic cystotomy done in this position by Dr. Willy Meyer, formerly Prof. Trendelenburg's assistant. He was immediately impressed with the great advantages this method offered for abdominal work and at once set out to make use of it. He has since done over one hundred and fifty laparotomies in this posture, and has induced a great many operators on this side of the Atlantic to adopt it.

Dr. Krug claimed the following advantages for the method: If the patient's pelvis is raised up so that the symphysis forms the highest point and the body comes on an incline of at least 45° to the horizontal, all the viscera of the abdominal cavity will gravitate towards the diaphragm and the pelvis become free and easy of access. The small intestines will hardly come into view and never trouble the operator during the operation. The operator is enabled to see everything that he is doing and need not grope about in the dark. All bleeding points are readily detected and tied. In weak and anæmic patients the posture is a great advantage, preventing shock from acute anæmia of the brain. In all his operations he had never found any objectionable point or disadvantage in this posture. There are different ways of putting the patient in this position, very simple and very complicated ones. In most of his operations he had used the head-rest of an operating table, to which cushions were fastened with straps. Trendelenburg himself has had a very complicated operating chair constructed which answers all requirements. Several new devices have been brought out in New York lately.

Dr. Krug had lately constructed a frame of galvanized iron which can be screwed to any laundry or operating table. The upper part of this frame is covered with sailing canvas, a material which is durable, easily sterilized, and cheap. Straps are provided for the knees and ankles of the patient, whose pelvis can, by a simple mechanical arrangement, be elevated to an angle of 45° to 60°, and lowered again if required. The frame can easily be carried or taken along in a street car, and can be used on any kind of a table: it is easily cleaned and sterilized, and it is cheap.

Dr. R. T. Morris, of New York, said that those who had once seen an operation in this position would appreciate fully the great value of Trendelenburg's invention.

Dr. H. O. Marcy, of Boston, presented photographs showing a modification of the Trendelenburg chair.

Dr. J. H. Carstens, of Detroit, spoke of the

danger of atmospheric infection from the air rushing into the abdominal cavity, as had been stated was the case as soon as the abdominal walls were opened. He considered that that would be a decided objection to the Trendelenburg position.

Dr. Willy Meyer, of New York, replied to Dr. Carsten's objection that the danger from atmospheric infection would be very slight, certainly no greater than in amputations and similar open work, in which cases he always expected union by first intention. He then gave a demonstration of the Trendelenburg posture on a table after Trendelenburg's original model that he had imported.

Dr. Krug, in closing the discussion, said that ever since he had used the Trendelenburg posture he wondered how he ever got along before. He considered that it would be a pretty fine distinction between the amount of air which entered the abdominal cavity in this posture and that which enters in ordinary operations. He had used the operation in from one hundred and fifty to two hundred laparotomies, and was willing to match his results with those of anybody else who operates in a horizontal position.

Dr. Rufus B. Hall, of Cincinnati, read an essay upon

#### SUPPURATING CYSTS DEVELOPED FROM ADHERENT OVARIES AFTER REPEATED ATTACKS OF INFLAMMATION; AND SECONDARY OPERATIONS FOR REMOVAL OF DOUBLE INTRALIGAMENTOUS CYST.

His conclusions were to the effect that, if these cases were operated upon early, just as soon as the physician was certain that nothing but an operation could bring the hoped-for relief, the operator would not be called upon to treat such desperate cases as those reported. No operator is justified in leaving an abdominal operation incomplete, except in malignant disease, for the reason that all other growths can be removed, and it should be done when once attempted. As long as the general practitioner persists in pursuing what he pleases to call conservative treatment in these cases, and keeps the patients under his care just as long as he can keep breath in them, and surgeons of the older class turn these patients from their consulting rooms as non-operative cases and thus defer it, or the cases made still more complicated by incomplete operations, men engaged in this special work will continue to see just such desperate cases. While this state of affairs exists, what can we hope for other than a high mortality in these delayed cases, and who should be held responsible for the deaths? (See page 470, THE CANADIAN PRACTITIONER.)

Dr. M. Rosenwasser, of Cleveland, wished to protest against the assertion that these intestinal adhesions were due to the first operation. Intestinal adhesions are common to the broad ligament, and not to the cyst, and will be found there whether you operate the first time or the second time. He also wished to contradict the assertion that these cysts ought to be removed. It is better occasionally not to attempt removal. In some cases it is better to stitch the cyst to the abdominal wall and drain, leaving the cyst wall alone.

Dr. H. O. Marcy, of Boston, said that in a certain class of cases he had felt that we must stitch and drain. In another class of cases you can



readily get behind it, close it down by suturing, and close your wound as in a simple operation.

Dr. W. W. Seymour, of Troy, called attention to the method, suggested originally by Hegar, of approaching these collections of pus through the ischio-rectal space. There is the advantage of not invading cavities not ordinarily septic.

Dr. Hall, closing the discussion, said that the first case illustrated very forcibly the advisability of an operation on these cases of repeated attacks of inflammation early, as early as it is found that nothing but an operation can cure them. These cases further illustrate what Dr. Price has said, that we get the worst class of cases among the best class of patients, those of refinement and culture.

### THIRD DAY—AFTERNOON SESSION.

Dr. Charles A. L. Reed, of Cincinnati, presented  
OBSERVATIONS ON THE SURGICAL MANAGEMENT  
OF PELVIC ABSCESS.

Pelvic abscess implies an accumulation of pus within the pelvis, but outside of the uterine appendages. Pus within the appendages is known either as pyo-salpinx or ovarian abscess, as the case may be. The terms are not interconvertible. The old pathology, which represented every accumulation of pus within the pelvis as cellular in its origin and location, was pernicious; but to deny the existence of such cases is wide of the truth, and to treat all intrapelvic pus cases as tubal or ovarian is likewise pernicious. Three illustrative cases were given in which the abdomen had been opened for pus tubes, but the appendages found free from disease. The pus was found within the cellular tissue and broad ligament, and was evacuated by incision along Poupert's ligaments. The suggestion for surgical management consists in adopting this operation as a line of practice. By this means we are enabled to treat the appendages, if diseased, and we are enabled to place the field of operation under complete control.

Dr. Paul F. Mundé, of New York, present by invitation, said that he felt diffident about rising to this question, although he had just said to Dr. Reed that it was a subject he felt very strongly upon and one which he had had considerable experience with. He quite agreed with Dr. Reed. There are many gentlemen who believe that laparotomy is the only thing. There are many who maintain that there is no such thing as pelvic abscess—abscess of the pelvic cellular tissue; everything must come from the tubes; everything is necessarily a pyo-salpinx, and could only get into the pelvic tissues secondarily. He did not believe anything of the kind. He knew there were gentlemen who believed it. From his own experience he could see no reason why there should not be just as much plastic exudation in between the layers of the broad ligament, or wherever there is cellular tissue in the pelvis, as in any other portions of the body where there is cellular tissue. We have boils and abscesses in other parts of the body, and why should we not have them in the pelvis? Besides, we know we have effusions of blood in the pelvis. We know also that ovarian tumors and fibroid tumors develop in the broad ligament, and dissect up the peritoneum almost as far as the diaphragm. Why

should plastic material from the blood not be exuded between the layers of the broad ligament and into the cellular tissue? That granted, why should it not break down and become pus? Lawson Tait has taught us to recognize these conditions of pus in the peritoneal cavity by bimanual examination without opening the abdominal cavity. The differential diagnosis is not always an easy one to make. Whenever a collection of plastic lymph in the pelvic cavity is immovable, it is usually extraperitoneal, and the same would apply to a fluctuating mass containing either pus or blood; when there is a limited movability to it or a limited movability to the uterus, particularly when pulled downward or upward, it was intraperitoneal.

Dr. Joseph Price, of Philadelphia, presented

### A PLEA FOR EARLY HYSTERECTOMY AND PUERPERAL HYSTERECTOMY.

The history of abdominal and pelvic surgery is all aglow with the heroic effort, the personal sacrifices of its pioneers. Surgical invention has greatly improved upon and simplified methods. Where the spirit of innovation has bungled, the better genius of surgery has corrected. We are having cleanliness without the aid of chemical irritants and disinfectants. We are rapidly advancing to accept early operation as a dictum in pelvic and abdominal surgery. I can find no delight in so-called conservative methods. My experience disproves and condemns them. It will become an axiom of surgery not to delay longer than to establish the fact that operation will be necessary at some time. This granted, the earlier such operation is done the fewer will be the complications, and all the dangers attending operation will be diminished or avoided. There will be a shorter operation, less handling of the parts, less shock, surgical and dynamic, and quicker convalescence.

The simple entering the abdomen is without danger in the hands of experienced men. Now, when surgical experience proves that the simpler the operation the less dangerous it is, and that the danger increases by exact gradation as the complications increase, what other conclusion to the argument is there than to demand early operation for conditions that in almost all cases eventuate seriously? This is especially true in fibroid tumors. The removal of the appendages is proven to be efficient, in a majority of cases, in controlling hemorrhage, just as it is the clinical testimony that in almost all cases of fibroid disease there is real disease of the ovary itself. In large tumors the ugly nature of the complications, combined with the gradually increasing discomfort, is such that makes delay criminal. We must operate before the patient is past help, if we would save her. Surgery as a last resort after temporizing has failed is no criterion of what surgery can accomplish, and is no measure or standard by which it may be judged.

Dr. L. S. McMurtry, of Louisville, read a paper on

### THE ESSENTIAL QUESTION OF DRAINAGE IN PELVIC SURGERY.

At an executive session the following officers were elected: *President*, Dr. A. Vander Veer, of Albany. *Vice-Presidents*, Dr. H. E. Hill, Saco, Me., and Dr. R. T. Morris, New York. *Secretary*,



Dr. William Warren Potter, Buffalo. *Treasurer*, Dr. X. O. Werder, Pittsburg. *Executive Council*, Drs. C. A. L. Reed, Cincinnati; Lewis S. McMurry, Louisville; George H. Rohé, Baltimore; James F. W. Ross, Toronto; and William W. Seymour, Troy.

St. Louis was selected as the next place of meeting.

The following-named physicians were elected to Fellowship: *Ordinary*: I. H. Cameron, Toronto, Ont.; Henry Gibbons, San Francisco, Cal.; John R. Haynes, Los Angeles, Cal.; Francis L. Haynes, Los Angeles, Cal.; J. B. S. Holmes, Rome, Ga.; James McCann, Pittsburg, Pa.; Willis G. MacDonald, Albany, N.Y.; R. B. Nevitt, Toronto, Ont.; Edward M. Pond, Rutland, Vt.; William Porter, Jr., Hartford, Conn.; E. Arnold Praeger, Nanaimo, B.C.; Charles N. Smith, Toledo, Ohio; Edwin Walker, Evansville, Ind. *Corresponding*: H. S. Griffin, Hamilton, Ont.; Henry T. Machell, Toronto, Ont.; Henry Howitt, Guelph, Ont.

## Book Reviews.

*Essentials of Anatomy and Manual of Practical Dissection, together with the Anatomy of Viscera.* By Charles B. Nancrede, M.D., Professor of Surgery and of Clinical Surgery in the University of Michigan. Fourth edition, revised and enlarged. Philadelphia: W. B. Saunders, 1891.

This book has found favor in some localities. else the present new edition would not be so soon called for. We cannot, however, reverse the opinion which we expressed in reviewing a former edition, that the method adopted, in writing the book in a form of question and answer, is a bad one. We do not wish a student to handle a subject like anatomy after the same manner as a child learns the shorter catechism, with probably little consideration of the appropriateness of the answer to the question. We wish to give our students a book which they can read in an intelligent fashion and study thoroughly: such a book must be written in a rational style, and not as if it were intended for boys in the primary class of a common school. The colored plates taken from the works of Maclise, Savage, and others, are excellent.

*A Treatise on Practical Anatomy for Students of Anatomy and Surgery.* By Henry C. Boenning, M.D., Lecturer on Anatomy and Surgery in the Philadelphia School of Anatomy, etc. Illustrated with one hundred and ninety-eight wood engravings. Philadelphia and London: F. A. Davis, Publisher, 1891.

This is a work of considerable merit. The subject is presented in a concise form, and with-

in the compass of 459 pages we have presented to us the chief facts in human anatomy. The descriptions are too meagre for the student to trust to this book solely for his knowledge, but he will undoubtedly find it of great service in supplementing a larger text-book. The whole subject of human anatomy may be rapidly reviewed by a perusal of the contents. We congratulate Dr. Boenning on the successful way in which he has done his work. The illustrations are well executed, and the publishers deserve great credit for the attractive volume which they have presented.

*A Text-Book of Physiology.* By M. Foster, M.A., M.D., LL.D., F.R.S., Professor of Physiology in the University of Cambridge, etc. Fourth American, from the fifth English edition, thoroughly revised, with notes, additions, and two hundred and eighty-two illustrations. Philadelphia: Lea Brothers & Co., 1891.

This English text-book is so well known that it is unnecessary to say anything in criticism of it. It is with great pleasure that we welcome a fifth edition of Dr. Foster's work, which embraces much new matter and presents the subject dealt with in a manner thoroughly wrought up to date. We regret that the name of the American editor is not published in the book before us. It would have been satisfactory to have known the authority for the additions which have been made to the original work. These additions have, however, been few.

*Manual of Chemistry.* A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book specially adapted for Students of Pharmacy and Medicine. By William Simon, Ph.D., M.D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons, Baltimore, and in the Maryland College of Pharmacy. New (third) edition; 8 vo., 477 pages. Cloth. \$3.25. Philadelphia: Lea Brothers & Co., 1891.

The unfortunate medical student forced to wade through, in two short winter sessions, the whole range of chemistry, organic and inorganic—to him a slough of despond—will welcome this manual. The chemistry essential to a knowledge of medicine in all its branches is fully taken up, special attention being paid to the many new compounds which are so rapidly being added to our modern materia medica.

*A Manual of Hypodermic Medication ; the Treatment of Diseases by the Hypodermatic or Subcutaneous Method.* By Robert Bartholow, A.M., M.D., Emeritus Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College, Philadelphia. Philadelphia : J. B. Lippincott Company, 1891.

This well known manual, which made its original appearance in 1869, has now reached its fifth edition. Bartholow, the first to publish a work in English upon the treatment of disease by subcutaneous medication, is determined that his work shall not be robbed of its well-won place of honor. Many additions have been made, embodying the latest advances in therapeutics, and bringing the book up to date.

### Personal.

DR. E. ARNOLD PRAEGER, of Nanaimo, B.C., read the address on Surgery at the recent meeting of the Canadian Medical Association. It was an able exposition of the present position of spinal surgery. Dr. Praeger is one of the most progressive and able of Canadian surgeons. He attended the annual meeting of the American Association of Obstetricians and Gynecologists in New York, and then went on to the Washington Congress of American Physicians and Surgeons. We trust that this genial citizen of British Columbia will visit the United States "early and often."—*Buffalo Medical and Surgical Journal*.

DR. A. G. GERSTER has been elected president, and Dr. J. A. Wyeth vice-president, of the New York Surgical Society.

DR. J. R. HAYDEN has been appointed lecturer in venereal diseases in the University of Vermont.

DR. J. WEST ROOSEVELT has been appointed Professor of Clinical Medicine in the New York Post-Graduate Medical School.

DRS. THISTLE, Primrose, Baines, Davison, and Bingham have been placed on the active staff of the Victoria Hospital for Sick Children.

### Therapeutic Notes.

ICHTHYOL IN PHLEGMONOUS ERYSIPELAS.—To obtain the best results from ichthyol in erysipelas there are certain rules which must be attended to :

- (1) Ichthyol is most useful when used early, and the application made frequently.
- (2) The application must be as extensive and thorough as possible.
- (3) The air must be excluded.

These rules are applied or objects attained as follows :

"All the neighboring mucous membranes and skin must be cleansed with a concentrated solution of salicylic acid. Any wounds which may be present, disinfected with sublimate solution (1:1000) and covered with sublimated gauze. Then, not only the reddened skin, but the normal also for a hand's-breadth around is to be rubbed thoroughly for from ten to fifteen minutes with pure ichthyolated ammonia, or with that drug combined with lanolin (in equal parts or 2 : 1). This rubbing is like gentle massage, and must be as thorough as the pain will permit. By this rubbing so much of the drug is absorbed that the affected skin presents a brownish-red appearance. Over the whole of this area a layer of absorbent gauze, moistened with a solution of salicylic acid, is spread, and this dressing is covered with a thick sheet of *non-absorbent* sterilized cotton. . . . Ichthyol is easily rubbed in, even where the hair is long, and is readily removed with hot water and soap. The dressing is changed daily."—*The Kansas City Med. Record—Epitome of Medicine*.

TOPICAL APPLICATION IN DIPHTHERIA.—Having used with signal success the following formula as a topical application to the throat in the treatment of malignant diphtheria, I make this report so that a thorough test of it may be made :

R.—Acid sulphurosi . . . f ̄ss.  
Liquor potassæ . . . gtt xl.  
Aquæ calcis . . . ad f ̄iiv.

Mix, filter; keep well corked, in a cool place. To be applied topically to the throat by means of a sponge, probably every hour or two.—*Ernst Timmermann, M.D., in Med. News.*

PREPARATIONS OF COD LIVER OIL.—Dr. Simpson, in the *Montreal Medical Journal*, speaks of an excellent preparation of cod liver oil manufactured by the Davis & Lawrence Company, of Montreal, called the "D. & L. Emulsion of Cod Liver Oil with Hypophosphites of Lime and Soda," which he has used for two years, owing to its agreeable appearance, not unpleasant taste, and evident therapeutic qualities. It has the color and consistence of thick cream, and contains fifty per cent. of Norway oil well broken up in glycerine and mucilage, with six grains each of the hypophosphites of lime and soda to the ounce. Most children take it without trouble.

COMEDONES.—Unna claims that the following will not only cause the apparent disappearance of the comedones, but will also exercise sufficient tonic action to diminish and finally abolish the tendency to their formation :

R.—Wool fat, 10.  
Vaseline, 20.  
Hydrogen, peroxide, 20–40.

M.

This mixture is to be applied to the affected parts and allowed to remain.—*Medical Age*.

"ANTI-KAMNIA," according to the *Pittsburgh Medical Review*, is a mixture of acetanilide, 7 parts; sod. bicarb., 1 part; and a small amount of tartaric acid. As anti-kamnia sells for \$1 and acetanilide for fifteen cents an ounce, the thusness of the mixture is at once apparent.

STRYCHNINE AS A HEART TONIC.—Strychnine is a good stimulant for weakness of the heart. The heart beat becomes strong, the small arteries contract, and the blood pressure increases.

OINTMENT FOR ERYSIPELAS.—

Sublimate . . .  $\frac{1}{2}$  gr.  
Lanoline . . .  $\bar{v}$ .  
Vaseline . . .  $\bar{v}$ iss.

—*Medical Press*.

BROMIDES AND PHTHISIS.—M. Féré says that saturating an animal with bromides predisposes to tuberculosis.

## Miscellaneous.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.—At the annual meeting, held October 9th, the following officers were elected: President, Dr. L. C. Prevost; 1st vice-president, Dr. W. C. Cousens; 2nd vice president, Dr. A. A. Henderson; treasurer, Dr. R. W. Powell; secretary, Dr. C. J. H. Chipman; curator, Dr. J. A. Grant; librarian, Dr. H. B. Small.

CHANGES IN MCGILL MEDICAL FACULTY.—Dr. James Stewart has been appointed professor of clinical medicine in McGill University in the place of the late Dr. Richard L. MacDonnell. Dr. Blackader takes Dr. Stewart's former position of professor of materia medica. Dr. R. F. Ruttan has been appointed assistant professor of chemistry and registrar.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.—At the annual meeting, held October 9th, the following officers were elected: President, Dr. Buller; vice-presidents, Drs. James Stewart and Lachapelle; secretary, Dr. Kenneth Cameron; treasurer, Dr. J. A. Macdonald; librarian, Dr. T. D. Reed.

THE Russian Minister of Education has issued a circular permitting women who have finished a course of higher education to be engaged as apprentices in drug stores, and by examination to become pharmacists, with the same rights and privileges as a man.

THE medical committee on the preparation of the new German pharmacopeia is now at work. 1603 new remedies were proposed to be placed on the new list, but only 42 were deemed worthy of official sanction.—*Med. Press and Circular*.

THE gold medal recently presented to Prof. Virchow, of Berlin, on his seventieth birthday, contains nearly six pounds of material, representing a value of \$1,800. It has the inscription "omnis cellula a cellula."

DEATH FROM COCAINE.—A young physician in Bournemouth, England, died recently from the effects of cocaine, which he had applied too freely to an aching tooth.



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